VARIAN 620/L-100

MAINTENANCE MANUAL

Specifications Subject to Change Without Notice

varian data machines/a varian subsidiary

A

DO NOT SCALE DRAWING

CUSTOMER: VID

SALES ORDER: 37-16986

DATE:

FROM: C. M. FUJIOKA

END USER: VID

BRIEF DESCRIPTION & NOTES

This 620/L-103 has been modified per VID document #998712-01.

The memory timing and control board (slot 6) has a bootstrap loader protect option (DM-395A) protecting addresses 0 to 77_8 and the upper 400_8 locations.

APPROVED BY:

PROD. MGR.

DATE:

DESCRIPTION OF CHANGE

EO

DFT

CHK

DATE

REV

DRAWN	DATE	APPROVED	DATE	CODE
CHECKED	DATE	APPROVED	DATE	CLASS

SYSTEM MEMO

varian

NOT OTHERWISE SPEC: FRAC ± ANG ± SCALE

FIN. ✓ DEC .X ± .XX ± .XXX ±

	A		
DIVISION	SIZE	DRAWING NO.	RE

03-998114 A

VENDOR: VDM IRVINE

VDM MODEL E-2861 B

This consists of:

1) 1 620L-103 16K CPU

2) 1 E 2847 BOOTSTRAP PROTECT (03-998 116)

3) <u>LESS THE FOLLOWING</u>:

PRIORITY INTERRUPT MODULE (PIM)

REAL TIME CLOCK

FRONT PANEL, LATCH & HINGE BRACKETS

DOCUMENTATION & TAPES (See Note 2)

NOTES:

1) Test unit with front panel, then remove panel. VDM/PA will install adapter board to permit operation without front panel.

2) Does not include program tapes or listings. Only documentation required is Maintenance Manual, Volume 2.

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SPEC CONTROL DRAWING

DESCRIPTION OF CHANGE	WAS CLASS C	[illegible] TO #2
[illegible]		
[illegible]	[illegible]	[illegible]
DFT	[illegible]	[illegible]
CHK	[illegible]	[illegible]
DATE	[illegible]	[illegible]
REV	[illegible]	[illegible]

DRAWN	DATE	APPROVED	DATE	CODE
R.Anderson	11/1/72			
CHECKED	DATE	APPROVED	DATE	CLASS
			11/10/72	A

620 L CPU for VID (GATOR)

NOT OTHERWISE SPEC: FRAC ± ANG ± SCALE —

FIN. ✓ DEC .X ± .XX ± .XXX ±

varian

DIVISION	SIZE	DRAWING NO.	REV
VDM/Palo Alto	A	03-998114	B

ADDENDUM

620/i and 620/L Power Failure/Restart Manuals

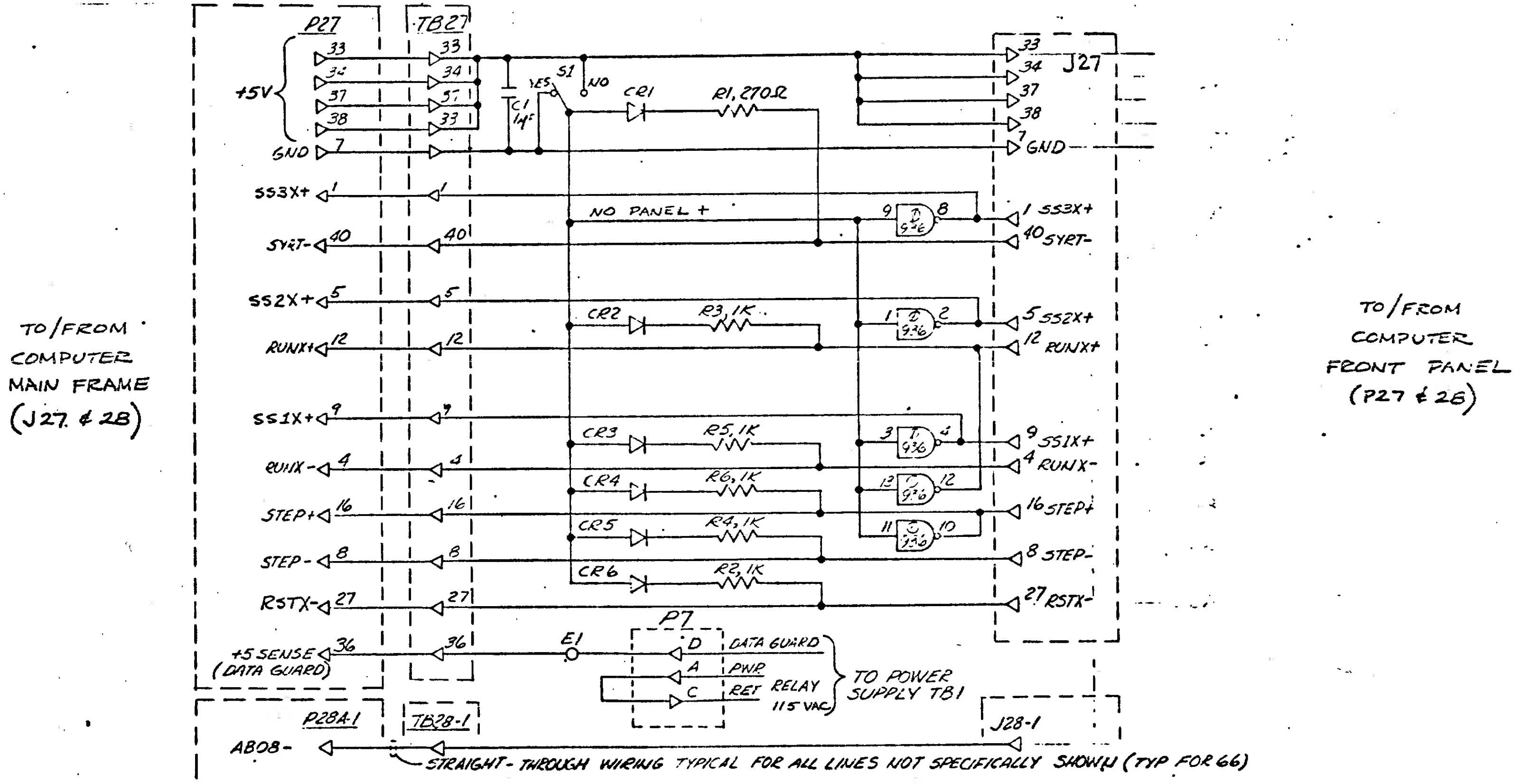
98 A 9902 442

February 1972

Not only must the PF/R threshold be readjusted when the power supply and/or the PF/R card is changed, it must also be readjusted whenever a change from 50 to 60 Hz (or vice versa) operation is made, or whenever there is an increase in the load on the +5V dc supply.

CASH NO	TYPE OR MODEL	NEXT ASSEMBLY
	CDS	93-950348

NO	PART NUMBER	DESCRIPTION OR MATERIAL



DO NOT SCALE DRAWING

NOTES:

1. CR1 THRU CR6 ARE 1N914.
ALL RESISTORS ARE ¼W, 5%.

DESCRIPTION OF CHANGE	[illegible] -WAS A; SIZE. ADDED 1C/C & C1.
NUM	
EO	2280-1
DFT	CFD
CHK	JHT
DATE	[illegible]/73
REV	B

DRAWN	DATE	APPROVED	DATE	CODE
J. DAY	4/5/73			
CHECKED	DATE	APPROVED	DATE	CLASS
JHT	4/12/73	[illegible]	4-2-73	2

SCHEMATIC,
620/L PANEL SHOE

NOT OTHERWISE SPEC FRAC ± ANG ±
FIN ✓ DEC X ± . XX ± XXX ±
SCALE ~

varian

DIVISION	SIZE	DRAWING NO	REV
GDS	C	93-950346	3

03-998

A

VENDOR: VDM IRVINE

VDM MODEL E-2847 Loader Protect

This is Loader-protect option for 620L-100 (Model 620L-115) with following modification:

> Locations 0 to 77_8, inclusive, are protected in the same manner as the upper 400_8 locations.

Any attempt to write in the locations specified above will be converted to a read cycle. No HALT or interrupt will be generated.

The purpose of the additional protection is to preserve the Power-on interrupt locations and the GATOR manual-interrupt location (0).

DO NOT SCALE DRAWING

DESCRIPTION OF CHANGE	WAS CLASS 'C'
	3078-1
DFT	JJD
CHK	JJT
DATE	[illegible]
REV	[illegible]

DRAWN R. Anderson	DATE 11/10/72	APPROVED	DATE	CODE
CHECKED	DATE	APPROVED RCL	DATE 11-10-72	CLASS A

SPEC CONTROL DWG:
E-2847 LOADER PROTECT

varian

NOT OTHERWISE SPEC: FRAC ±	ANG ±		SCALE —
FIN. ✓ DEC .X ±	.XX ±	.XXX ±	
DIVISION GDS	SIZE A	DRAWING NO. 03-998116	REV A

DWG NO 98A0935

REVISIONS

SYM	DESCRIPTION	APPROVED	DATE
A.	PRODUCTION RELEASE PER EN 81815		3/28/73

DR K. Ellinor	2/27/73
CHK	
DSGN	
ENGR S. Watt	3/28/73
APPD	3/28/73
APPD	

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2722 michelson drive / irvine / california / 92664

TITLE

ENGINEERING DESCRIPTION
BOOTSTRAP LOADER PROTECT
(E-2847)

CODE IDENT NO.	SIZE	DWG NO.	REV
21101	A	98A0935	A
SCALE		SHEET 1 OF 10	

0153-0006

ENGINEERING DATA FORM

OPTION	Bootstrap Loader Protect
MODEL	
NO. OF LOGIC CARDS REQ'D.	Assembled on the memory timing and control
NO. OF CARD SLOTS REQ'D.	1
LOCATION OF SLOTS (NUMBERING)	CPU Card Slot 6
CONNECTORS REQ'D. (EXCLUDING I/O)	N/A
KEYING	
ST'D. DEVICE ADDRESS	N/A
WIRELIST NUMBER	N/A (PC Board)
MANUAL PUBLICATIONS NUMBER	This document
PERIPHERAL EQUIPT. REQ'D	For test only: BIC and paper tape system
MFG'R.	
MODEL	
GEN'L. SPECS	

NOTES:

Drawings:

Top Assembly	44P0671
Logic Diagram	91D0436
Bracket Assembly	04C0656

Software and test procedures are part of this drawing.

varian data machines a varian subsidiary 2722 michelson drive irvine/california/92664	CODE IDENT. NO	98A0935	REV A
	PREPARED BY	APPR	SHT 2 OF 10

SECTION 1
GENERAL DESCRIPTION

The loader protect feature consists of additional logic located on the memory timing and control board plus additional backplane wiring to a switch. Drawing describes the modification procedure.

The purpose of the loader protect is to prevent writing into the last 400_8 locations of a selected 4K memory increment and locations 0 through 77_8 of the first 4K memory increment.

SECTION 2
FUNCTIONAL DESCRIPTION

The loader protect feature prevents writing into memory locations which are used by the bootstrap and binary load/dump routines. These locations are normally the last 400 octal addresses of the core memory. The loader protect circuitry is located on the timing and control card located in CPU card slot 6. The card contains jumper pads for the three most significant address terms (L12X+, L13X+, L14X+). Jumpers are installed at the factory or in the field when the system memory capacity exceeds 4K. Address may be adjusted to protect any memory increment from 4 to 32K.

NOTE: If no jumpers are installed, the last 400 octal locations of each 4K section is controlled by the loader protect circuitry. (See Table 1 for jumper configuration).

There is a switch mounted on the chassis inside the front panel that enables and disables the option.

There are no additional instructions or control terms for this option. All addresses for write type operation are compared for error. An error occurs whenever a write type operation is attempted in a protected area with the option enabled.

SECTION 3
THEORY OF OPERATION

All addresses being accessed in memory are checked by the loader protect option. When the address being accessed is equal to that of a protected address, and LPEX+ (loader protect enable from switch) is true, and H2XX+ (decode for a store instruction) is true, then the WRTX+ (write control to memory) is forced to ground. This causes the memory cycle to be a read/restore cycle.

After an error, the WRTX+ signal will be forced to ground causing a read cycle, and the computer will continue to cycle, changing all write cycles in a protected area. During a trap-in operation, the read/write command (WRTX+) and the memory start pulse (MSPX+) are forced to the low state and the CPU continues to cycle.

3.1 TRAP-IN OPERATION

When executing a trap-in request with the option enabled, if the memory address provided by the trapping device is in the protected area, the following events occur. The read/write command (WRTX+) and the memory start pulse (MSPX+) are forced to the low state.

3.2 LOADER PROTECT ENABLE/DISABLE SWITCH

A toggle switch located on the chassis inside the front panel is used to enable the loader protect circuitry. When the switch is in the disable position, all memory locations are available for storage. However, when the switch is in the enable position, the loader protect feature prevents writing into the memory locations X7400 through X7777 and locations 0 through 77_8.

*X = 4K core segment

3.3 ADDRESS SELECTION

Table 1 shows jumper placement on the memory timing and control board for address selection. Typically, the system memo will specify the proper jumpering.

TABLE 1

MEMORY SIZE	JUMPERS REQ.		
	A-A	B-B	C-C
4K	No	No	No
8K	No	No	Yes
12K	No	Yes	No
16K	No	Yes	Yes
20K	Yes	No	No
24K	Yes	No	Yes
28K	Yes	Yes	No
32K	Yes	Yes	Yes

A-A, B-B and C-C are jumper pads for the three most significant address terms and are located on the memory timing control board.

SECTION 4
MNEMONIC LIST

H2XX+	Store instruction decode
ICLX-	Inhibit clock
L02X+ through L14X+	Memory address register lines
LPEX+	Loader protect enable from switch
MSPX+	Memory start pulse
TPIX-I	Trap-in
WRTX+	Read/write command

SECTION 5
TEST DESCRIPTION

5.1 PROGRAM MODE TEST

Using Aid II program with loader protect disabled write a fixed data pattern in locations 0 through 77 and X7400 through X7777.

i.e.
I 0 , 77, 177777,.
I X7400, X7777, 177777,.

X = 0-7 for
4 → 32K
I^{E} 4K = 0
8K = 1

Enable loader protect then write a different fixed pattern in locations 0 through 77 and locations X7400 through X7777.

i.e.
I 0 , 77, 0.

I X7400, X777,0,.

Now verify that the original pattern did not get altered by reading locations 0 77 and X7400 X7777 and comparing it with the original pattern by using the search function of Aid II program.

i.e.
S 0,.77, 177777, N
S X7400, X7777, 177777, N

If any errors occurred, they will be listed as follows: There should be no errors.

i.e.

Address	Contents
000043	(000000)

5.2 TRAP-IN TEST

Using the Aid II program load the following program into core starting at location 100.

```
100     100021     Initialize BIC
101     006010     LDAI
102     0
103     006020     LDBI
104     -77
105     101537     Sen Buff Ready
106     000111
107     001000     JMP
110     000105
111     103120     OAR BIC Initial Reg.
112     103221     OBR BIC Final Reg.
113     100020     Activate BIC
114     100537     Start Reader
115     005000     NOP
116     101020     Sen BIC Not Busy
117     000122
120     001000     JMP
121     000115
122     100021     Initialize BIC
123     006010     LDAI
124     0X7400
125     006020     LDBI
126     0X7777
127     101537     Sen Buff Ready
130     000133
131     001000
132     000127
133     103120     OAR BIC Initial Reg.
134     103221     OBR BIC Final Reg.
135     100020     Activate BIC
136     100537     Start Reader
137     005000     NOP
140     101020     Sen BIC Not Busy
141     0X6000
142     001000     JMP
143     000137
```

Place a test tape in the reader, [redacted] then run the program starting at location 100. When it is complete, it will return to the Aid II program.

Verify that none of the protected locations of core get altered by using the search function of the Aid II program.

```
i.e.
S   0 , 77, 177777, N
S   X7400, X7777, 177777, N
```

Any errors will be listed as in previous test. There should be no errors.

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PAGE 1 OF 2

DOCUMENTATION RECORD

CUSTOMER VARIAN GADS
MODEL NO. 620/L-100
SYS. SERIAL NO. 81
JOB ORDER NO. 73284-24
SHIP DATE
CHECKED BY

UNIT	DOCUMENTATION NO.	REV	ART REV	S/N	DESCRIPTION	INSP.
	01E1035	-	-	-	FRAME ASSY	
	01D1036	-	-	-	FRONT PANEL ASSY	
	93D0275	-	-	-	POWER SUPPLY INSTALLATION	
	3238441	-	-	-	CORE STACK	
DM288	44P0506	P		11047	SENSE INHIBIT	
DM288	44P0506	P		11050	SENSE INHIBIT	
DM288	44P0506	P		8987	SENSE INHIBIT	
DM288	44P0506	P		9018	SENSE INHIBIT	
DM288	44P0506				SENSE INHIBIT	
DM288	44P0506				SENSE INHIBIT	
DM295	44P0515				DISPLAY BOARD	
DM327	44P0578	G		3075	DRIVE/SINK SW	
DM327	44P0578	G		3142	DRIVE/SINK SW	
DM327	44P0578				DRIVE/SINK SW	
DM336	44P0592	D		3684	REGISTER CARD	
DM336	44P0592	D		3688	REGISTER CARD	
DM336	44P0592	D		3675	REGISTER CARD	
DM336	44P0592				REGISTER CARD	
DM336	44P0592				REGISTER CARD	
DM336	44P0592				REGISTER CARD	
DM337	44P0593	N		1152	PROCESSOR CONT. #4	
DM337	44P0593				PROCESSOR CONT. #4	
DM338	44P0594	D		1435	HM/D & F.A.	
DM338	44P0594				HM/D & F.A.	
DM339	44P0595	B		1547	PROCESSOR CONT #1	
DM339	44P0595				PROCESSOR CONT #1	
DM340	44P0596	F		1314	PROCESSOR CONT. #2	
DM340	44P0596				PROCESSOR CONT. #2	
DM341	44P0597	E		1153	PROCESSOR CONT. #3	
DM341	44P0597				PROCESSOR CONT. #3	
DM342	44P0598	E		1380	DMA	
DM343	44P0671	F		092	MEMORY T AND CONT.	
DM343	44P0599				MEMORY T AND CONT.	

PREPARED BY Ma
DATE 5-30-74

NOTE:

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PAGE 2 OF 2

DOCUMENTATION RECORD

CUSTOMER VARIAN GADS

MODEL NO. 620/L-100

SYS. SERIAL NO. 81

JOB ORDER NO. 73284-29

SHIP DATE

CHECKED BY

UNIT	DOCUMENTATION NO.	REV	ART REV	S/N	DESCRIPTION	INSP.
DM301	44P0521	F		1155	MEMORY BUFFER	
DM308	44P0530				TERM SHOE	
DM124-1	44P0172				PIM	
DM123-3	44P0185	U		2347	PFR/ RTC	
	83P0035	P		182	POWER SUPPLY	
	95W0908				WIRE LIST	

PREPARED BY ma

DATE 5-30-74

NOTE:

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98A0746E
Page 1 of 8

PARTS LIST FOR 620/L AND 620/L-100 CIRCUIT CARDS

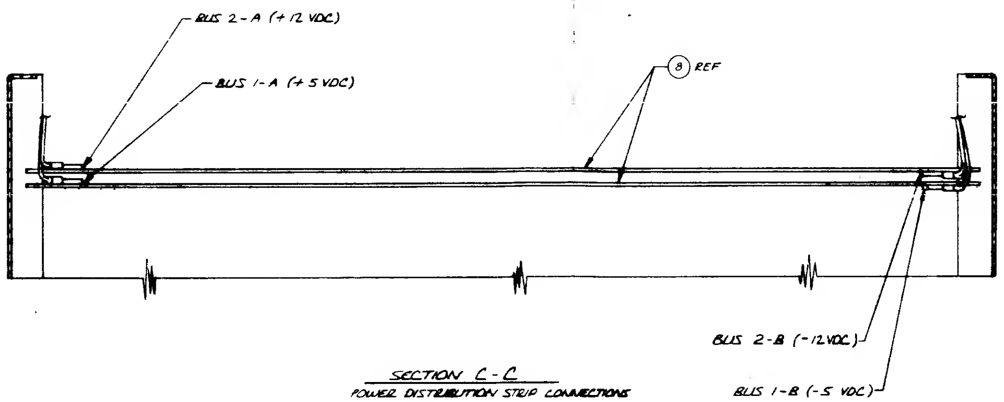
The following is a composite parts list for the 620/L and 620/L-100. It is divided into three sections. Section 1 contains the standard circuit cards, section 2 the power supply, and section 3 the controller cards. The parts for each circuit card are listed in numerical order according to Varian part numbers. The reference designations in the parts list also appear on the assembly drawings and logic diagrams.

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
1. STANDARD LOGIC CARDS			
44P0172 * Priority Interrupt Module	49A0002-000	Tex Inst SN7473N	IC 16,33,39,44,49
	49A0004-000	Tex Inst SN7440N	IC 41
	49A0007-000	Tex Inst SN7400N	IC 23,24
	49A0008-000	Tex Inst SN15846N	IC 6,10,12,18,19,25,26,30,32,38,43,45,46,48,50
	49A0010-000	Fairchild SL18162	IC 4,5,11,28,29,36
	49A0011-000	Tex Inst SN15830N	IC 1,7,13,17,20,21,27,35,51
	49A0012-000	Tex Inst SN7474N	IC 2,3,9,15,31,37,42,47
	49A0014-000	Tex Inst SN15850N	IC 22,34
	49A0016-000	Tex Inst SN15833N	IC 8,14,40
44P0185 Power Failure/Restart and Real-Time Clock	49A0002-000	Tex Inst SN7473N	IC 3,13,19,20,26,27,33
	49A0004-000	Tex Inst SN7440N	IC 22,23,32
	49A0007-000	Tex Inst SN7400N	IC 8,9,12,31
	49A0008-000	Tex Inst SN15846N	IC 1,2,4,5,6,11,21,24,25,34,35,36,37,39,40,41
	49A0010-000	Fairchild SL18162	IC 14,15,16,17,18,28,30,42
	49A0011-000	Tex Inst SN15830N	IC 7,10
	49A0518-000	Motorola MC851L	IC 29,38
	76A2369-000	2N2369	Q 3,5,6,8,9,10,11,15,16,17,1
	76A3009-000	2N3009	Q 12,19
	76A4034-000	2N4034	Q 1,2,4,7,13,14
	76N4916-000	Fairchild 2N4916	Q 1,2,4,7,13,14
	76S1002-000	Motorola 2N3019	Q 20
	76S1046-000	Fairchild 2N3646	Q 12,19
	77N0753-000	IN753	CR 3,10
	77S1017-000	Fairchild EDN400	CR 1,2,4,5,6,7,9

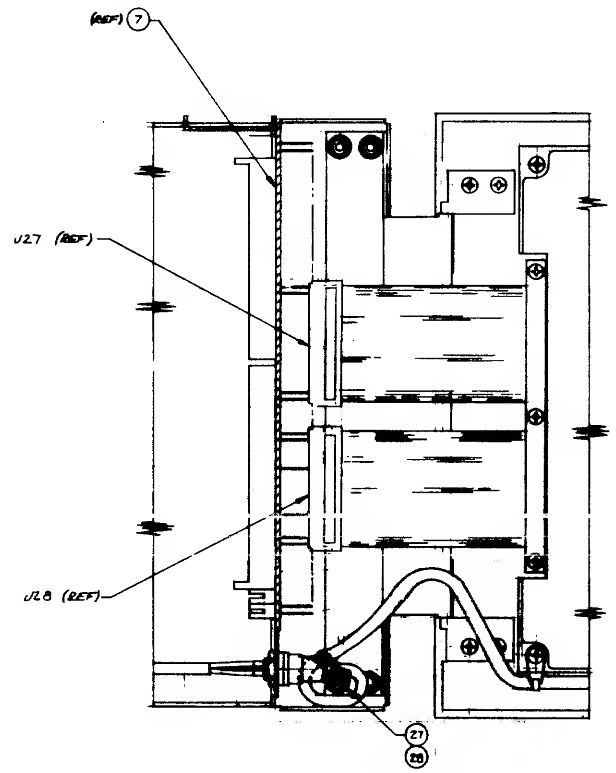
* See page 6 for another version of Priority Interrupt Module.

01E1035 J

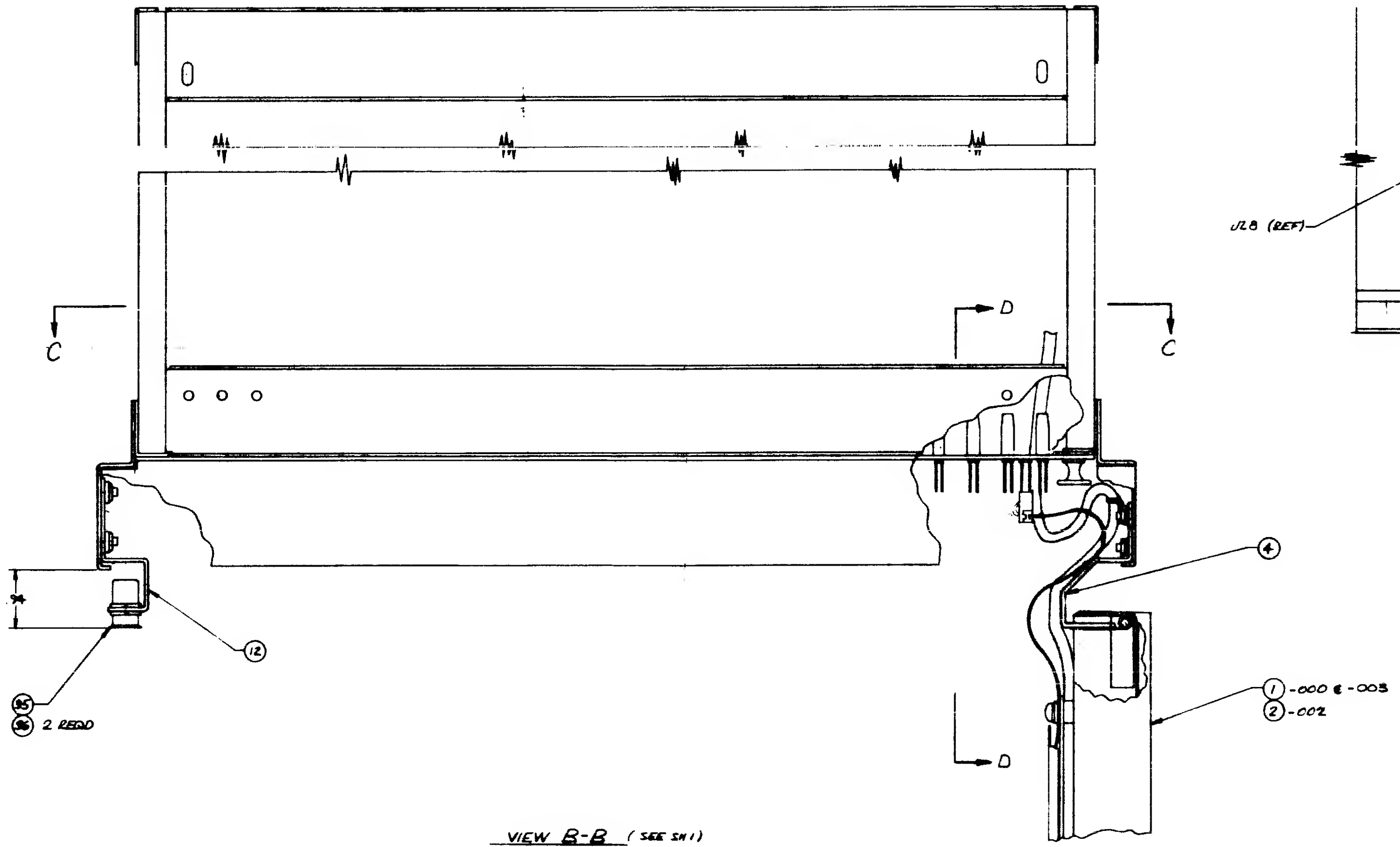
REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		



SECTION C - C
POWER DISTRIBUTION STRIP CONNECTIONS



SECTION D - D
ROTATED CCW 90°



VIEW B - B (SEE SH 1)
ROTATED CW 90°

01E1035 J

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	E	01E1035	J
SCALE 1/1		SHEET 2 OF 2	

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0506 Sense/Inhibit	48A0002-001	Varian	A 101,201,401,501,701, 801,1001,1101
	48A0003-001	Varian	A 303,603,903,1203
	49A0022-000	Tex Inst SN74H11N	IC 4,5,7,9,10,12
	49A0032-000	Tex Inst SN7402N	IC 2
	49A0042-000	Tex Inst SN74H01N	IC 1,3,6,8,11
	49A0080-000	Tex Inst SN7524N	IC 101,201,401,501,701, 801,1001,1101
	49A0119-000	Motorola MHQ5859	A 302,602,902,1202
	76A2369-000	2N2369	Q 301 through 304, 601 through 604, 901 through 904, 1201 through 1204
	77S1017-000	Fairchild EDN400	CR 101,102,103,104 through 904,1201,1202,1203,1204, 305,605,905,1205
44P0515 Display Board	49A0004-000	Tex Inst SN7440N	IC 15
	49A0040-000	Tex Inst SN7404N	IC 3,7,11,13
	49A0110-000	Tex Inst SN75451BP	IC 1,2,4,5,6,8,9,10,12,14
44P0521 Memory Buffer	49A0023-000	Tex Inst SN74H04N	IC 2,4,7
	49A0025-000	Varian	A 1,2
	49A0042-000	Tex Inst SN74H01N	IC 1,3,5,6,8
	49A0124-000	Tex Inst SN7407N	IC 13,14,15
	49A0125-000	Tex Inst SN7408N	IC 9,10,11,12
44P0578 Driver/Sink Switch	49A0032-000	Tex Inst SN7402N	IC 1,3
	49A0041-000	Tex Inst SN74H51N	IC 4,7,8
	49A0044-000	Tex Inst SN7442N	IC 2,5,9,11
	49A0118-000	Tex Inst SN7427N	IC 6,10
	49A0119-000	Motorola MHQ5859	A 102,104,202,204,302,304,402 404,502,504,602,604,702,704 802,804
	76A0002-000	2N3725A	Q 25
	76A2369-000	2N2369	Q 1,2,5,9,12,13,14,17,18
	76A2904-000	2N2904	Q 23
	76A2907-000	Motorola 2N2907	Q 3,4,6,7,8,10,11,15,16,19,20
	76N3640-000	2N3640	Q 21,24
	76S1046-000	Fairchild 2N3646	Q 22,26
	77N0751-000	Tex Inst IN751A	CR 7,10,11,12,13,14
	77S1017-000	Fairchild EDN400	CR 1 through 6,8,9,15, 101 through 116, 201 through 216, 301 through 316, 401 through 416, 501 through 524, 601 through 624, 701 through 724, 801 through 824

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0592 Register Card	49A0000-000	Tex Inst SN7475N	IC 9,21,33
	49A0007-000	Tex Inst SN7400N	IC 13,24
	49A0010-000	Fairchild SL18162	IC 2,6,7
	49A0012-000	Tex Inst SN7474N	IC 4,8,14
	49A0023-000	Tex Inst SN74H04N	IC 12,18,41
	49A0040-000	Tex Inst SN7404N	IC 1
	49A0095-000	Tex Inst SN74H52N	IC 15
	49A0096-000	Tex Inst SN74181N	IC 19,25
	49A0102-000	Tex Inst SN74182N	IC 3
	49A0104-000	Motorola MC3001P	IC 26
	49A0106-000	Tex Inst SN74H53N	IC 5,10,11,16,17,22,23,27, 28,29,30,31,32,34,35,40, 42,43,44
	49A0141-000	Tex Inst SN74174N	IC 36,37,38,39
	49A0554-001	Tex Inst SN74H10N	IC 20
	77S1011-000	Varian	CR 1 through 6
44P0593 Processor Control Number 4	49A0000-000	Tex Inst SN7475N	IC 40
	49A0002-000	Tex Inst SN7473N	IC 4,18,19,43
	49A0004-000	Tex Inst SN7440N	IC 2
	49A0005-000	Tex Inst SN7410N	IC 10,13,44
	49A0006-000	Tex Inst SN7420N	IC 21
	49A0007-000	Tex Inst SN7400N	IC 5,12,42
	49A0010-000	Fairchild SL18162	IC 1,29
	49A0019-000	Tex Inst SN74H40N	IC 6,7,32
	49A0020-000	Tex Inst SN74H72N	IC 8
	49A0023-000	Tex Inst SN74H04N	IC 14,17,22
	49A0025-000	Varian	A 1,2
	49A0036-000	Tex Inst SN74H73N	IC 28
	49A0038-000	Tex Inst SN74H22N	IC 15
	49A0039-000	Tex Inst SN74H00N	IC 9,39,41,45
	49A0042-000	Tex Inst SN74H01N	IC 3,27
	49A0056-000	Tex Inst SN74H20N	IC 31,33,38
	49A0077-000	Tex Inst SN74H60N	IC 24
	49A0104-000	Motorola MC3001P	IC 16,25
	49A0106-000	Tex Inst SN74H53N	IC 26
	49A0127-000	Tex Inst SN74161N	IC 23
	49A0138-000	Tex Inst SN7437N	IC 11,30,37
	49A0146-000	Tex Inst SN74122N	IC 46
	49A0554-001	Tex Inst SN74H10N	IC 20,34,35,36

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0594 Multiply/ Divide, Extended Address	49A0000-000	Tex Inst SN7475N	IC 16
	49A0002-000	Tex Inst SN7473N	IC 2,29
	49A0006-000	Tex Inst SN7420N	IC 27
	49A0007-000	Tex Inst SN7400N	IC 21,22
	49A0008-000	Tex Inst SN15846N	IC 6,8,9,24,25
	49A0009-000	Tex Inst SN15862N	IC 19
	49A0010-000	Fairchild SL18162	IC 7
	49A0011-000	Tex Inst SN15830N	IC 10,14,28
	49A0036-000	Tex Inst SN74H73N	IC 15
	49A0038-000	Tex Inst SN74H22N	IC 1,4,5,13,18
	49A0039-000	Tex Inst SN74H00N	IC 17,32
	49A0042-000	Tex Inst SN74H01N	IC 3,20
	49A0128-001	Tex Inst SN7438N	IC 11,12,26,30,31
	49A0142-000	Tex Inst SN7412N	IC 23
44P0595 Processor Control Number 1	49A0000-000	Tex Inst SN7475N	IC 18,19,26,27
	49A0002-000	Tex Inst SN7473N	IC 1,4,8,34
	49A0004-000	Tex Inst SN7440N	IC 37
	49A0005-000	Tex Inst SN7410N	IC 36
	49A0007-000	Tex Inst SN7400N	IC 7,10
	49A0008-000	Tex Inst SN15846N	IC 2,5,12,13,15,16,20,24, 25,28,29,30,31,33
	49A0009-000	Tex Inst SN15862N	IC 11
	49A0011-000	Tex Inst SN15830N	IC 3,6
	49A0019-000	Tex Inst SN74H40N	IC 32
	49A0021-000	Tex Inst SN7401N	IC 14,21,22,23
	49A0039-000	Tex Inst SN74H00N	IC 9
	49A0042-000	Tex Inst SN74H01N	IC 17
	76N3055-000	2N3055	Q 1
	77N4730-000	IN4730A	CR 1
	77S1011-000	Varian	CR 2
44P0596 Processor Control Number 2	49A0000-000	Tex Inst SN7475N	IC 41
	49A0002-000	Tex Inst SN7473N	IC 9,20,27
	49A0004-000	Tex Inst SN7440N	IC 18,40,43
	49A0005-000	Tex Inst SN7410N	IC 10,11,30,48
	49A0006-000	Tex Inst SN7420N	IC 22,23,26,28,34
	49A0007-000	Tex Inst SN7400N	IC 4,5,7,12,19,37
	49A0008-000	Tex Inst SN15846N	IC 15,17,31,42
	49A0009-000	Tex Inst SN15862N	IC 1,6,29
	49A0010-000	Fairchild SL18162	IC 13,24,47
	49A0011-000	Tex Inst SN15830N	IC 3,21,25
	49A0019-000	Tex Inst SN74H40N	IC 32
	49A0038-000	Tex Inst SN74H22N	IC 8,14,38
	49A0039-000	Tex Inst SN74H00N	IC 36
	49A0042-000	Tex Inst SN74H01N	IC 2,16,35,39,45
	49A0056-000	Tex Inst SN74H20N	IC 33
	77S1011-000	Varian	CR 1

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0597 Processor Control Number 3	49A0002-000	Tex Inst SN7473N	IC 2,12
	49A0004-000	Tex Inst SN7440N	IC 1,5,9,15,18,20,24,29
	49A0005-000	Tex Inst SN7410N	IC 4
	49A0006-000	Tex Inst SN7420N	IC 10,14,43
	49A0007-000	Tex Inst SN7400N	IC 13,42
	49A0008-000	Tex Inst SN15846N	IC 11,23,27,28,32,33
	49A0009-000	Tex Inst SN15862N	IC 6,31
	49A0019-000	Tex Inst SN74H40N	IC 26,34,41
	49A0038-000	Tex Inst SN74H22N	IC 37
	49A0039-000	Tex Inst SN74H00N	IC 19,38
	49A0042-000	Tex Inst SN74H01N	IC 7,16,21,22,30,36,39
	49A0128-001	Tex Inst SN7438N	IC 3,8
	49A0142-000	Tex Inst SN7412N	IC 25,35,40
	49A0554-000	Tex Inst SN74H10N	IC 17,44
	77S1011-000	Varian	CR 1,2
44P0598 Interrupt Trap	49A0002-000	Tex Inst SN7473N	IC 1,9
	49A0004-000	Tex Inst SN7440N	IC 24,28,32
	49A0005-000	Tex Inst SN7410N	IC 40
	49A0007-000	Tex Inst SN7400N	IC 10,15
	49A0008-000	Tex Inst SN15846N	IC 3,6,12,14,16,20,23,27, 35,37,38
	49A0010-000	Fairchild SL18162	IC 2,8
	49A0011-000	Tex Inst SN15830N	IC 36
	49A0021-000	Tex Inst SN7401N	IC 39
	49A0036-000	Tex Inst SN74H73N	IC 19
	49A0038-000	Tex Inst SN74H22N	IC 7
	49A0039-000	Tex Inst SN74H00N	IC 18,22,26,30,31,34
	49A0042-000	Tex Inst SN74H01N	IC 13,17,21,25,29,33
	49A0056-000	Tex Inst SN74H20N	IC 4,11
	49A0142-000	Tex Inst SN7412N	IC 5
	77S1011-000	Varian	CR 1,2
44P0599 Memory Timing and Control	49A0003-000	Tex Inst SN7472N	IC 9
	49A0019-000	Tex Inst SN74H40N	IC 17
	49A0023-000	Tex Inst SN74H04N	IC 7,13
	49A0039-000	Tex Inst SN74H00N	IC 6,11
	49A0041-000	Tex Inst SN74H51N	IC 16
	49A0056-000	Tex Inst SN74H20N	IC 12
	49A0079-000	Tex Inst SN74H54N	IC 8,15
	49A0146-000	Tex Inst SN74122N	IC 14
	49A0554-001	Tex Inst SN74H10N	IC 10
	77S1017-000	Fairchild EDN400	CR 1

Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0640 Memory Timing and Control	49A0003-000	Tex Inst SN7472N	IC 9
	49A0019-000	Tex Inst SN74H40N	IC 17
	49A0023-000	Tex Inst SN74H04N	IC 7,13
	49A0039-000	Tex Inst SN74H00N	IC 6,11
	49A0041-000	Tex Inst SN74H51N	IC 16
	49A0056-000	Tex Inst SN74H20N	IC 12
	49A0079-000	Tex Inst SN74H54N	IC 8,15
	49A0146-000	Tex Inst SN74122N	IC 14
	49A0554-001	Tex Inst SN74H10N	IC 10
	77S1017-000	Fairchild EDN400	CR 1
44P0683 Priority Interrupt Module	49A0002-000	Tex Inst SN7473N	C 6,7; D 6,7
	49A0012-000	Tex Inst SN7474N	B 3; C 2,3,4
	49A0022-000	Tex Inst SN74H11N	D 4
	49A0023-000	Tex Inst SN74H04N	C 1; E 3
	49A0036-000	Tex Inst SN74H73N	F 2
	49A0039-000	Tex Inst SN74H00N	E 1,6,7; F 3
	49A0040-000	Tex Inst SN7404N	A 1; B 1,2,3; E 5
	49A0056-000	Tex Inst SN74H20N	A 4,5; C 5; D 1,5
	49A0082-001	Tex Inst SN74H74N	A 6,7; B 6,7; F 1
	49A0093-001	Tex Inst SN74H50N	D 2
	49A0094-001	Tex Inst SN74H21N	E 4
	49A0104-000	Motorola MC3001P	D 3; F 6,7
	49A0128-001	Tex Inst SN7438N	A 2,3
	49A0138-000	Tex Inst SN7437N	E 2
	49A0554-001	Tex Inst SN74H10N	B 4

ard P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation

2. POWER SUPPLY

ard P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0518 Heat Sink Board	76N3055-000	2N3005	Q 1,2
44P0526 Power Supply Board	76A0009-002	Motorola MR751	CR 5,6,7,8,9,10,11,13
	77N4001-004	IN4005	CR 15,16
	77N4003-000	IN4003	CR 12,14
	82A0030-001	Potter Brumfield KUP14AE6-115 VAC	K 1
44P0528 Regulator Board	49A0103-001	Fairchild U5R7723393	IC 1,2,3,4
	76A0007-000	2N3054	Q 1,2,3,5
	76A2904-000	2N2904	Q 4
	77A0004-000	IN746A	CR 6
	77N0751-000	Tex Inst IN751A	CR 3
	77N4003-000	IN4003	CR 4,5
83P0035 ower Supply	76A0008-000	Motorola MR1121	CR 1,2,3,4
	77A0005-000	Motorola MCR3935-2	Q 1

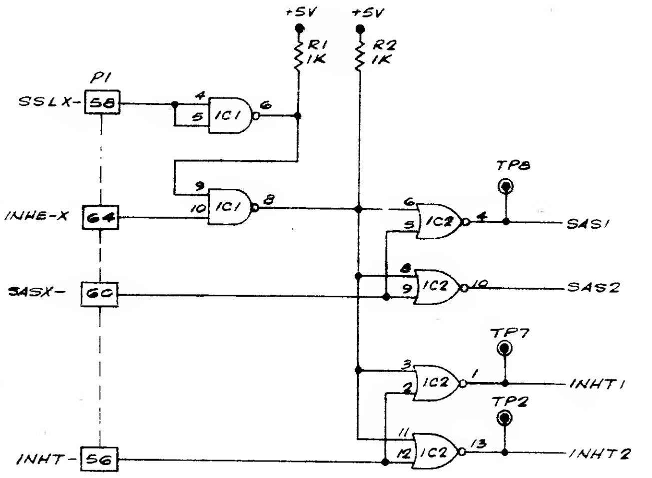
3. CONTROLLER CARDS

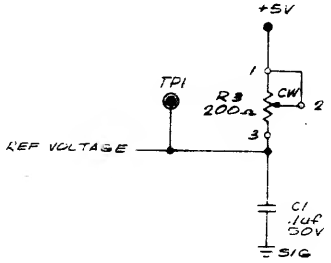
ard P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0013 Teletype Controller	49A0002-000	Tex Inst SN7473N	IC 6,10,11,22,23,27,28, 30,31,36,41
	49A0004-000	Tex Inst SN7440N	IC 25,40
	49A0007-000	Tex Inst SN7400N	IC 2,3,42
	49A0008-000	Tex Inst SN15846N	IC 1,4,13,14,15,17,19,20, 24,29,34,35,37,43
	49A0009-000	Tex Inst SN15862N	IC 5,38
	49A0010-000	Fairchild SL18162	IC 7,8,9,12,21,39,44
	49A0012-000	Tex Inst SN7474N	IC 16,18,26,32,33
	76A2369-000	2N2369	Q 1 through 4
	76S1072-000	Varian	Q 1 through 4
	77S1017-000	Fairchild EDN400	CR 1 through 10
	82A0006-000	Aztec 20229	K 2
	82A0006-003	Aztec 20213	K 1

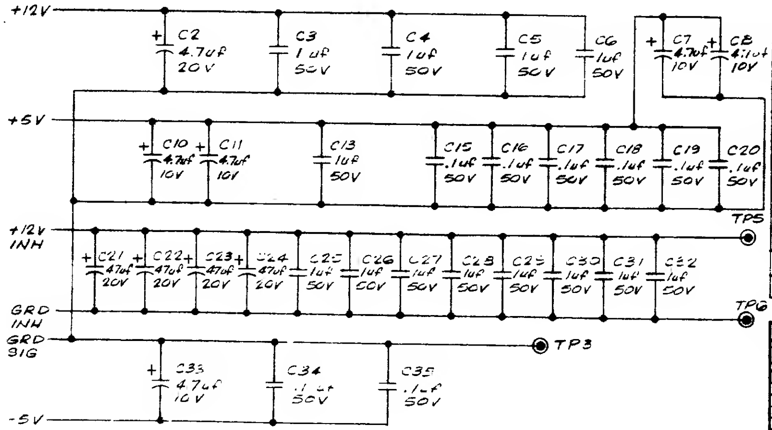
Card P/N and Name	Varian P/N	Manufacturer and P/N	Reference Designation
44P0026 Buffer Interlace Controller	49A0000-000	Tex Inst SN7475N	IC 14,28,42,56
	49A0002-000	Tex Inst SN7473N	IC 57
	49A0004-000	Tex Inst SN7440N	IC 15,17,37
	49A0005-000	Tex Inst SN7410N	IC 31
	49A0007-000	Tex Inst SN7400N	IC 4,5,16,38
	49A0008-000	Tex Inst SN15846N	IC 2,6,7,13,20,21,23,27,34, 35,41,43,48,49,55,62,63
	49A0010-000	Fairchild SL18162	IC 1,18,19,29,32,33,46,47, 50,51,58,60,61
	49A0011-000	Tex Inst SN15830N	IC 3
	49A0012-000	Tex Inst SN7474N	IC 11,12,25,26,39,40,53,54
	49A0014-000	Tex Inst SN15850N	IC 8,9,10,22,24,30,36,44, 45,52,59
44P0689 Buffer Interlace Controller	49A0000-000	Tex Inst SN7475N	A 7; B 7; C 7; D 7
	49A0002-000	Tex Inst SN7473N	E 6; F 2; K 4
	49A0012-000	Tex Inst SN7474N	F 6; H 7; K 3
	49A0022-000	Tex Inst SN74H11N	E 4; H 2
	49A0023-000	Tex Inst SN74H04N	A 4; C 4; D 5; E 5; K 5
	49A0039-000	Tex Inst SN74H00N	K 5
	49A0040-000	Tex Inst SN7404N	A 1; B 1; C 1; D 3
	49A0042-000	Tex Inst SN74H01N	A 6; B 6; C 6; D 6
	49A0082-001	Tex Inst SN74H74N	E 2
	49A0093-001	Tex Inst SN74H50N	E 3; F 5,7
	49A0094-001	Tex Inst SN74H21N	H 3
	49A0104-000	Motorola MC3001P	F 1,4; H 6; K 6
	49A0127-000	Tex Inst SN74161N	A 3; B 3; D 4
	49A0128-001	Tex Inst SN7438N	A 2; B 2; C 2; D 1,2; E 1; H
	49A0178-000	Tex Inst SN74175N	H 1
	49A0554-001	Tex Inst SN74H10N	F 3
44P0176 Paper Tape Controller	49A0000-000	Tex Inst SN7475N	IC 8,14
	49A0002-000	Tex Inst SN7473N	IC 52
	49A0004-000	Tex Inst SN7440N	IC 16,25,31,37,40,42, 45,48,51,55
	49A0008-000	Tex Inst SN15846N	IC 1,6,7,10,12,13,15, 18,19,24,27,29,30, 34,36,38,47,49,50,57
	49A0009-000	Tex Inst SN15862N	IC 21,41,53
	49A0010-000	Fairchild SL18162	IC 5,11,17,23,26,32,43
	49A0011-000	Tex Inst SN15830N	IC 35
	49A0014-000	Tex Inst SN15850N	IC 4,28,33,39,44
	49A0018-000	Tex Inst SN15851N	IC 22
	49A0042-000	Tex Inst SN74H01N	IC 2,3,9,20
	49A0146-000	Tex Inst SN74122N	IC 46,56
44P0601 Bootstrap Loader	49A0007-000	Tex Inst SN7400N	IC 2
	49A0039-000	Tex Inst SN74H00N	IC 18
	49A0508-000	Tex Inst SN15846J	IC 4
	49A0510-000	Fairchild SL13016	IC 1,5
	49A0516-000	Motorola MC833L	IC 3

91D0285 E

X		PROTOTYPE RELEASE		
X2		PROTOTYPE RELEASE; REVISED ALL CIRCUITS		
A	JW	PRODUCTION RELEASE EN 5310		1/4/72
B	KU	TP1 WAS ON SIGNAL SAS2 EN 5505		3/1/71
C	JM	REMOVED RESISTOR VALUE ON R7-21 WAS 2.2K, ADDED NOTE FIVE PER EN 8085	RH	8/15/72
D	JM	REVISED SHT 4 PER EN 81270	RH	4/29/72
E	JM	.0018 uf WAS .0039 uf & 14 Ω ± 1% 3W WAS 12 Ω ± 1% 3W. REVISED PER EN 81307	RH	4/20/72







REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C35, C1104	C9,12,14
R21, R1217	
CR1205	
IC12, IC1101	
Q1204	
A1203	
TP8	
P1	
J1	

REFERENCE DRAWINGS	
40D0454	P.W. BOARD
44E0506	ASSEMBLY
44P0506	PARTS LIST
97D0533	ARTWORK
97D0555	SILKSCREEN
97D0556	SOLDER MASK

91D0285
E

5. VALUE FOR INDICATED RESISTORS IS:
FOR 44P0506-000 ASSY 2.2K OHMS
FOR 44P0506-001 ASSY 4.3 OHMS

4. POWER DISTRIBUTION TO IC1 THRU IC12: PIN 7 - GRD
PIN 14 - +5V

3. PREFIX COMPONENT REF DESIG NO. WITH CIRCUIT NUMBER EXAMPLE: CKT 1 - R101, R102 CKT 2 - R201, R202.

2 COMPONENT VALUE TO BE DETERMINED AT FINAL TEST

1. ALL RESISTOR VALUES ARE IN OHMS, 1/4 W, ±5%.

NOTE: UNLESS OTHERWISE SPECIFIED

620/L
44E0506

TOLERANCES
X ±.1
.XX ±.03
.XXX ±.005
ANGLES ± 0.5°

BREAK ALL SHARP EDGES .010 R APPROX

DO NOT SCALE DRAWING

DR	1/14/71
CHK	2/11/71
DSGN	1/19/71
ENGR	3/1/71
APPD	3-10-71
APPD	

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varian data machines A varian subsidiary

TITLE
LOGIC DIAG
SEN: INH
DM288

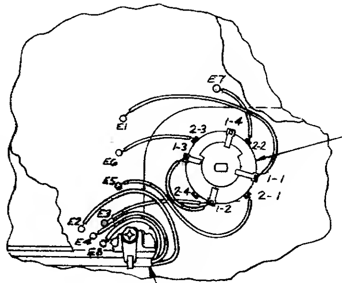
CODE IDENT NO.	SIZE	DWG NO.	REV
21101	D	91D0285	E

SCALE NONE SHEET 1 OF 4

01D1036 U

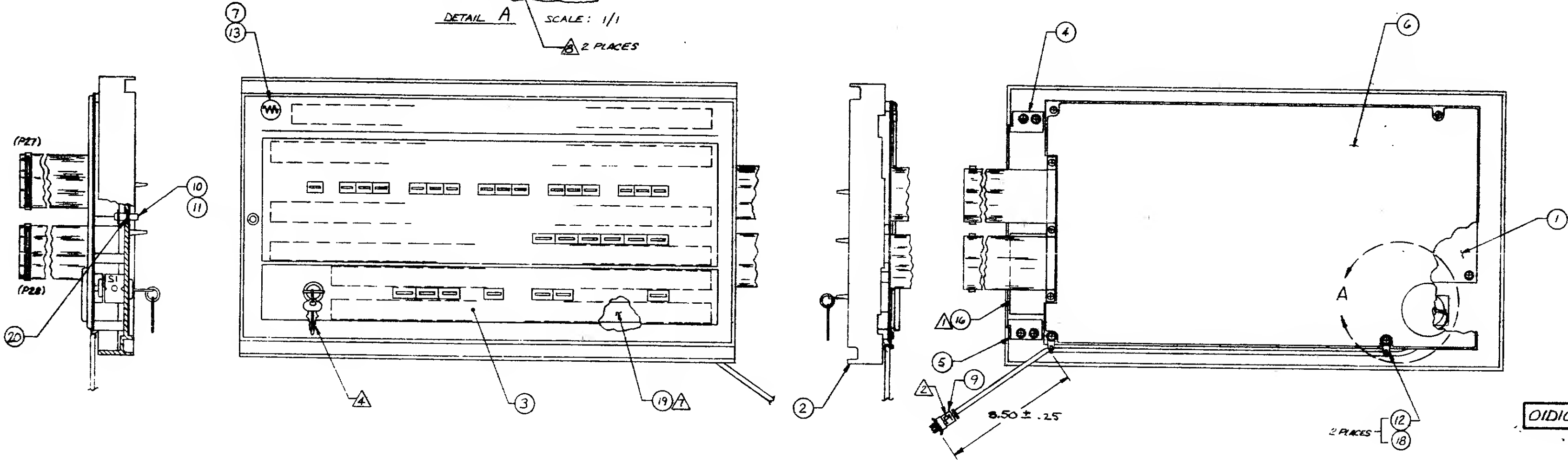
WIRE LIST			
FROM	TO	FIND NO.	COLOR
E5	2-1	15	WHT
E6	2-3	15	WHT
E3	1-2	15	WHT
1-3	1-2	15	WHT
E2	P1-A	17	RED
E4	P1-C	17	BRN
E8	P1-D	17	ORG
E7	2-2	15	WHT
E1	1-1	15	WHT

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
A		PRODUCTION RELEASE PER EN 5364		
—	JM	ADDED TO WIRE LIST PER EN 6550	WJD	4/2/71
B	JM	8.50±.25 WAS 4.75±.25 PER EN 5884	WJD	4/20/71
C	JM	ADDED FIND NO. 20 TO F/D ZONE C7 PER EN 80184		4/4/74

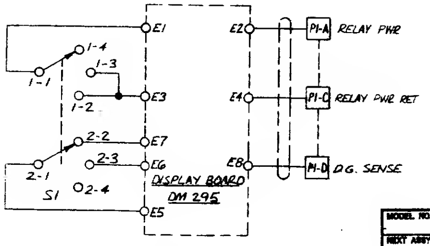


DETAIL A SCALE: 1/1

8 2 PLACES



01D1036 C



SCHEMATIC

8. CUT SHIELD BACK FLUSH WITH INSULATION, TYP BOTH ENDS
7. APPLY TAPE (FIND NO 19) BETWEEN FIND NOS. 2 & 3 AS REQD.
6. SPOT TIE AS REQUIRED.
5. ROUTING OF WIRES IS SHOWN FOR REFERENCE ONLY.
4. BAG KEYS (PART OF F/N 8) AND ATTACH SECURELY TO ASSEMBLY
3. USE HARDWARE IN ACCORDANCE WITH 98A0536.
2. "P1" REFERENCE DESIGNATION SHOWN FOR INFORMATION ONLY AND DOES NOT APPEAR ON PART
1. MARK PART NO. 01P1036-000 & THE REV. LETTER OF THE PARTS LIST TO WHICH THE PART WAS MANUFACTURED & SERIAL NO. OF ASSEMBLY IN .12 HIGH CHARACTERS ON FIND NO 16; ATTACH TO FIND NO. 2 APPROX WHERE SHOWN.

NOTE: UNLESS OTHERWISE SPECIFIED

FOR PARTS LIST SEE 01P1036

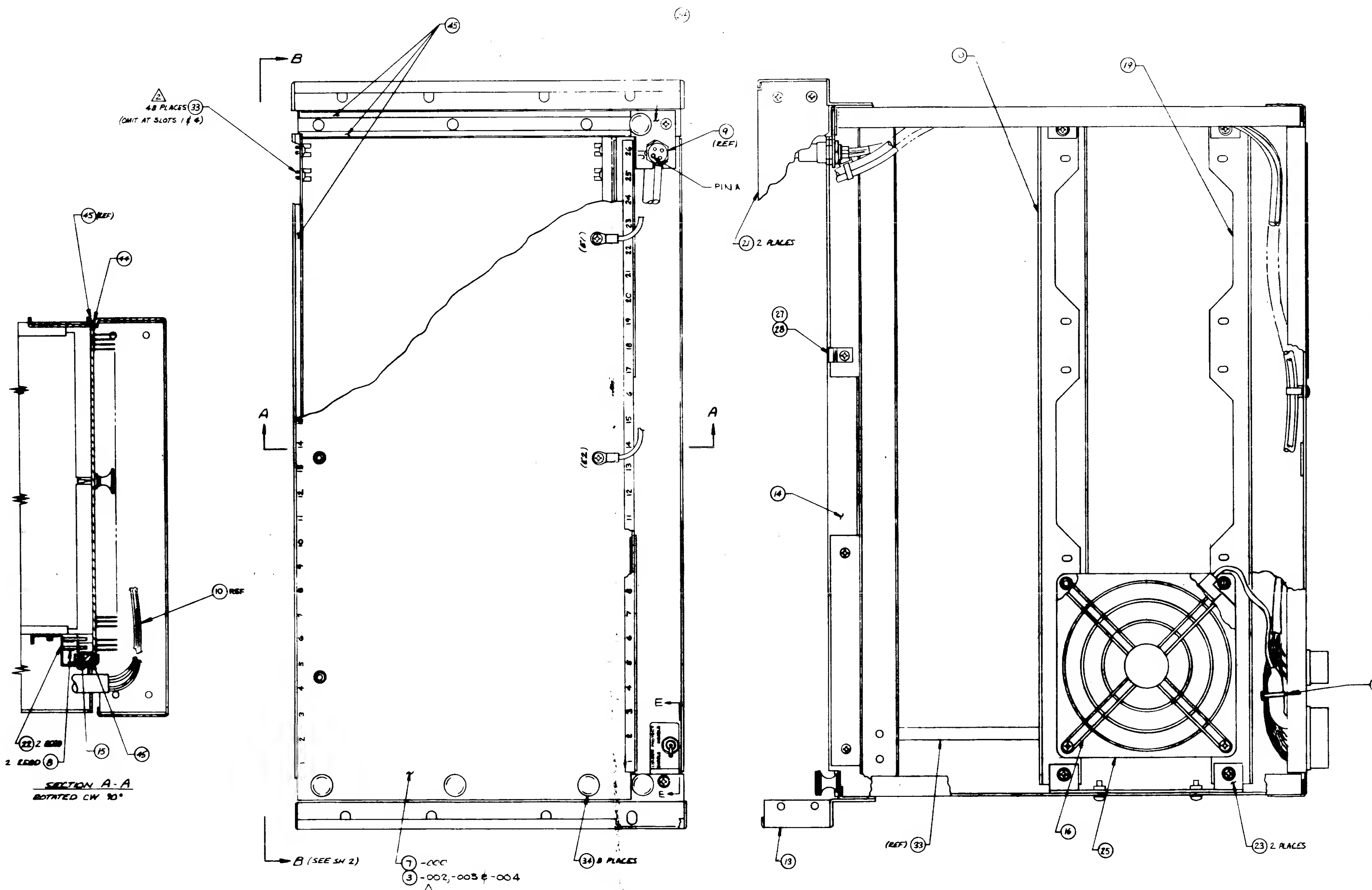
MODEL NO. 620/L	DIMENSIONS ARE IN INCHES AND AFTER FINISHING	DR KIUSSIS	1/14/71	varian data machines /a varian subsidiary 2722 michelson drive / irvine / california, 92664
NEXT ASSY 01E1035	TOLERANCES (UNLESS OTHERWISE SPECIFIED) .X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± 0.5°	CHK RAD	3/8/71	TITLE FRONT PANEL ASSY
MATERIAL		DSGN KIUSSIS	1/14/71	
		ENGR J. Marsh	3/15/71	
		APPD E Smith	3/15/71	
		APPD L. Meniga	3/18/71	
FINISH	BREAK ALL SHARP EDGES .030 R APPROX	THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT WRITTEN PERMISSION FROM VDM		CODE IDENT NO. 21101 | SIZE D | DWG NO 01D1036 | REV C
	DO NOT SCALE DRAWING			SCALE 1/2 | SHEET 1 OF 1

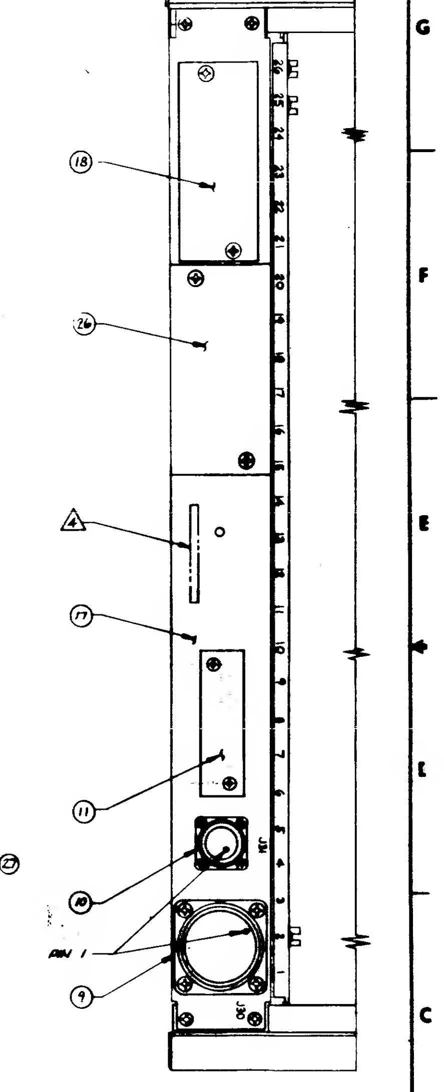
01E1035

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
A		PRODUCTION RELEASE PER EN 5042		
B	J2	REVISED PER EN [illegible]		
C	Sm	ADDED CABLE CLAMP AND SERVICE LOOP PER E.N. 5584		4/23/71
D	Sm	ZONE D2 REVISED VIEW OF WIRING & ADDED FIN 27 CALLOUT - DELETED VIEW E-E ZONE B3 PER EN 80104		
E		REVISED PER EN 80473		1/7/72
—		REVISED PER EN 80417		3/7/72
F		REVISED PER EN 80495		
—	GRL	ADDED -003 VERSION PER EN 81072		
G	GRL	ADDED -004 VERSION AND REVISED CABLE ROUTING IN VIEW B-B PER EN 81531		1/11/73
H		REVISED PER EN 81723	W. Brown	

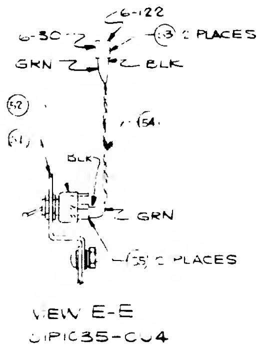
3

WIRE LIST		
FROM	TO	COLOR
J31-1	J17-113	PURPLE
J31-2	J17-112	GREEN
J31-3	J17-114	YELLOW

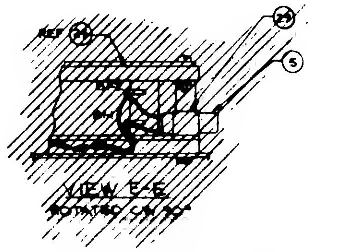




NOTE: FRONT PANEL ASSY OMITTED FROM THIS SHEET FOR CLARITY. SEE SHEET 2 FOR INSTALLATION OF FRONT PANEL ASSY



VIEW E-E
01P1035-004



VIEW E-E
ROTATED CW 90°

01E1035
J

TABULATION BLOCK		
VDM PART NO.	DESCRIPTION	NEXT ASSY
01P1035-000	FRAME ASSY, 16 BIT	01D1034 & 01A1234
~~01E1035-001~~	~~FRAME ASSY, 16 BIT~~	—
01P1035-002	FRAME ASSY 16 BIT	01P1277
01P1035-003	FRAME ASSY 16 BIT	01P1467
01P1035-004	FRAME ASSY, 16 BIT WITHOUT FRONT PANEL	01P497

6 MODIFY P/N 3 WIRING FOR 01P1035-004 VERSION ONLY PER WIRE LIST 95W0985 USING F/N 56.

5 ~~CABLE CLAMP (FIND NO 5) TO BE INSTALLED ON HINGE WITH FLAT SIDE UP (OPPOSITE TO MANNER IN WHICH INSTALLED ON FRONT PANEL DISPLAY BOARD)~~

4 MARK PART NO. 01P1035-(APPLICABLE DASH NO) AND REV LTR OF THE PARTS LIST TO WHICH THE PART WAS MANUFACTURED APPROX WHERE SHOWN. IDENTIFICATION TO BE .12 HIGH CHARACTERS & PERMANENT.

3 TERMINATE J17 END OF WIRE WITH ITEM 32. COVER WITH ITEM 42 APPROX .75 LONG AFTER INSTALLATION TO CONNECTOR PLATE.

2 INSTALL CARDGUIDES (ITEM 33) TO MATCH CONNECTORS ON CONNECTOR PLATE (ITEM 7) PRIOR TO INSTALLATION OF CONNECTOR PLATE.

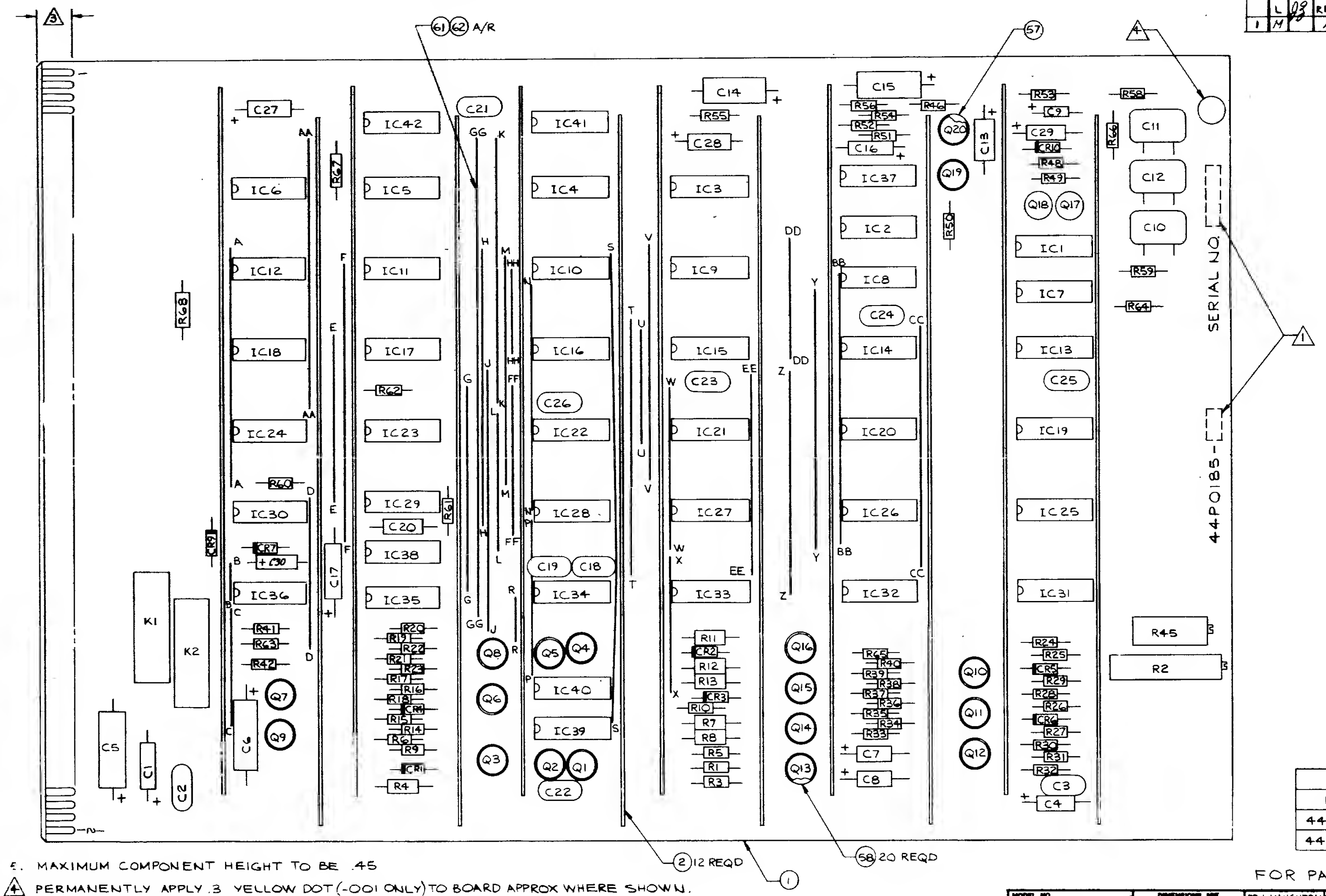
1. USE HARDWARE IN ACCORDANCE WITH 98A0536

NOTE: UNLESS OTHERWISE SPECIFIED

FOR PARTS LIST, SEE 01P1035

MODEL NO. 620L / 620L-100	DIMENSIONS ARE IN INCHES AND APPLY AFTER FINISHING	DR KILESSIS 11/16/70	
NEXT ASSY 01A1234 01A1277	TOLERANCES UNLESS OTHERWISE SPECIFIED .X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± 0.5°	CHK 11/23/70	TITLE FRAME ASSEMBLY
MATERIAL	BREAK ALL SHARP EDGES .010 R APPROX	DSGN KILESSIS 11/16/70	
FINISH	DO NOT SCALE DRAWING	ENGR 11-25-70 APPD 11-25-70 APPD	CODE IDENT NO. 21101 | SIZE E | DWG NO 01E1035 | REV J
		THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT WRITTEN PERMISSION FROM VDM	SCALE 1/1 | SHEET 1 OF 2

CODE	SYM	ZONE	REVISIONS DESCRIPTION	APPROVED	DATE
	L	D3	REVISED & REDRAWN EN 82393		7-13-73
1	M	D3	ADDED C30 EN 82509		9/17/73



44D0185

M

DASH NO. CHART	
PART NO.	REMARKS
44P0185-000	BASIC
44P0185-001	HUMISEAL & CERAMIC ICS

FOR PARTS LIST SEE 44P0185

5. MAXIMUM COMPONENT HEIGHT TO BE .45

⚠4 PERMANENTLY APPLY .3 YELLOW DOT (-001 ONLY) TO BOARD APPROX WHERE SHOWN.

⚠3 AFTER TEST AND PRIOR TO ACCEPTANCE TEST (-001 ONLY) MASK OFF CONNECTOR CONTACT AREA ON BOTH SIDES OF F/N 1. TOTALLY COAT BOTH SIDES OF ASSY WITH F/N 74.

2. FOR ENGR DESCR OF REAL TIME CLOCK OPTION (620 *i*-13) SEE DWG 98A0116.

⚠1 MARK PART WITH REVISION LETTER OF THE PARTS LIST TO WHICH THE PART WAS MANUFACTURED, AND SERIAL NUMBER, APPROXIMATELY WHERE SHOWN. IDENTIFICATION TO BE .12 HIGH CHARACTERS PERMANENT & LEGIBLE

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

97D0642	SILKSCREEN
97D0641	SOLDER MASK
44P0185	PARTS LIST
40D0201	BOARD DETAIL
97D0134	PHOTOMASTER
95D0135	LOGIC DIAGRAM

MODEL NO. 620 *i*-13/14
NEXT ASSY
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .02
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	J. NAUGHTON	4/15/68
CHK	J. EVERS	6/28/68
DSGN	J. NAUGHTON	6/4/68
ENGR	T. E. HANSON	7/1/68
APPD		
APPD		

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varian data machines /a varian subsidiary
2722 michelson drive / irvine / california, 92664

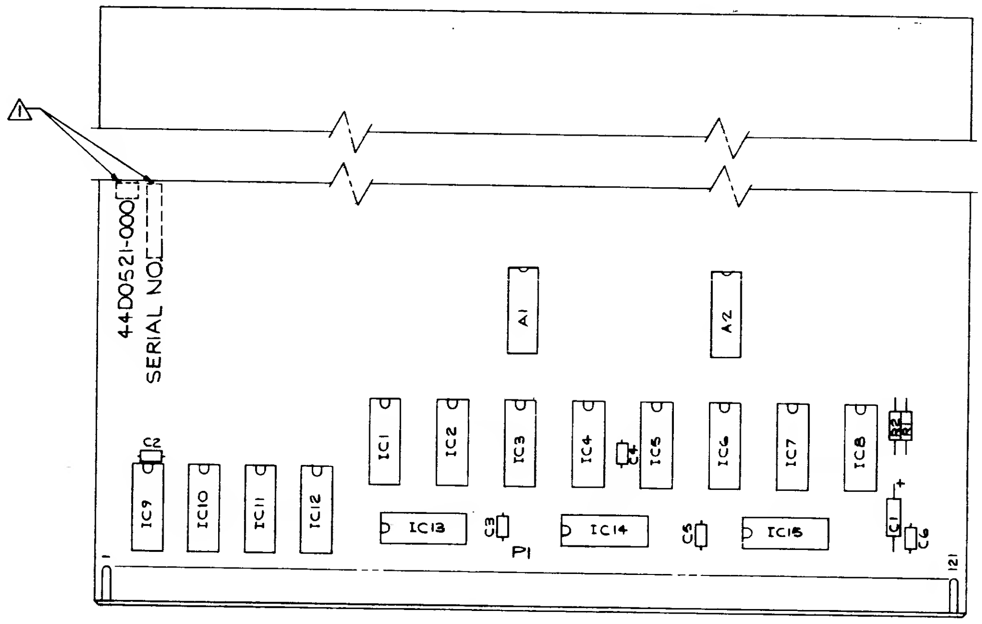
TITLE
ASSEMBLY DM123-3
PF/R AND RTC

CODE IDENT NO. 21101
SIZE D
DWG NO 44D0185
REV M
SCALE
SHEET 1 OF 1

44D0521 C

REVISIONS

SYM	ZONE	DESCRIPTION	APPROVED	DATE
A		PRODUCTION RELEASE EN 5428		3/[illegible]/71
B		MODEL NO. WAS [illegible] PER EN 80337		[illegible]
C		ADDED A1 AND A2 PER EN 81584		[illegible]



44D0521 C

FOR PARTS LIST SEE 44P0521

1. MARK REVISION LETTER OF THE PARTS LIST TO WHICH THE PART WAS MANUFACTURED AND THE SERIAL NUMBER OF THE ASSEMBLY APPROX WHERE SHOWN. IDENTIFICATION TO BE .12 HIGH CHARACTERS AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

40D0469	BOARD DETAIL
91D0297	LOGIC DIAGRAM
97D0566	ARTWORK
97D0567	SILKSCREEN
97D0568	SOLDER MASK

MODEL NO. 620 L
NEXT ASSY 01P1101
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR 3/10/71
CHK [illegible]
DSGN A. White [illegible]
ENGR [illegible]
APPD [illegible]
APPD [illegible]

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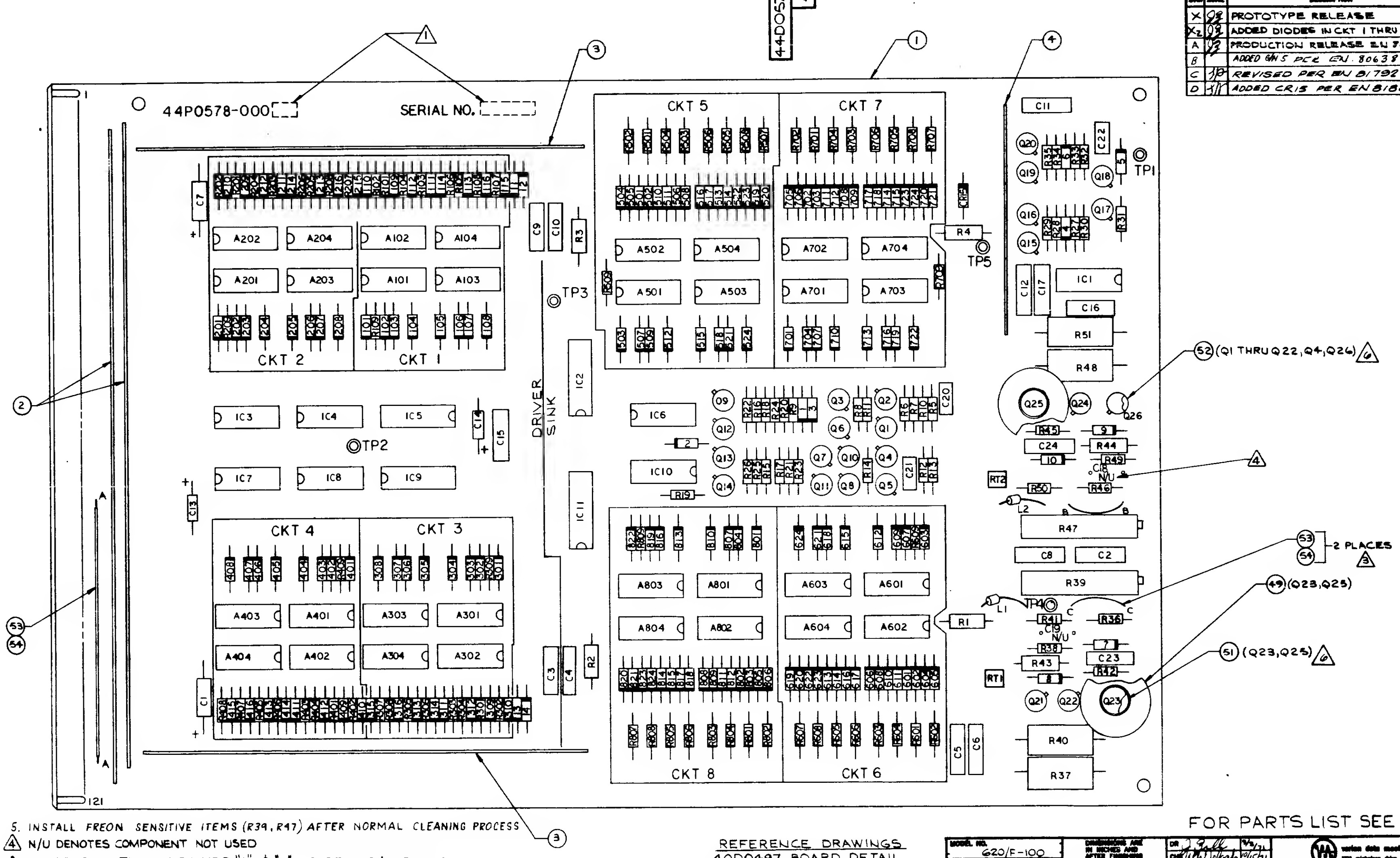
varian data machines / a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE MEMORY BUFFER BOARD ASSY

CODE IDENT NO. 21101
SIZE D
DWG NO 44D0521
REV C
SCALE 2/1
SHEET 1 OF 1

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X	[illegible]	PROTOTYPE RELEASE		
X_2	[illegible]	ADDED DIODES IN CKT 1 THRU 4		
A	[illegible]	PRODUCTION RELEASE EN 80250	[illegible]	[illegible]
B		ADDED G/N 5 PCR EN. 80638	[illegible]	[illegible]
C	[illegible]	REVISED PER EN 81792	[illegible]	[illegible]
D	[illegible]	ADDED CR15 PER EN 81883	[illegible]	[illegible]

44D0578 D



FOR PARTS LIST SEE 44P0578

44D0578 D

5. INSTALL FREON SENSITIVE ITEMS (R39, R47) AFTER NORMAL CLEANING PROCESS

4. N/U DENOTES COMPONENT NOT USED

3. JUMPERS BETWEEN POINTS "B" & "C" TO BE 2.5±.25 LONG

2. PREFIX DIODE REFERENCE DESIGNATIONS WITH "CR" AS SHOWN. EXAMPLE: 101 IS CR101

1. MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED AND SERIAL NO. USING .12 HIGH PERMANENT CHARACTERS APPROX WHERE SHOWN.

NOTE: UNLESS OTHERWISE SPECIFIED

6. USE OF TRANSISTOR MOUNTING PADS OPTIONAL

REFERENCE DRAWINGS
40D0497_BOARD DETAIL
91C0346_LOGIC DIAGRAM
97D0673_ARTWORK
97D0672_SILKSCREEN
97D0671_SOLDERMASK

MODEL NO. 620/F-100
NEXT ASSY 01P1247
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR [illegible] 9/3/71
CHK [illegible] 10/15/71
DSGN [illegible] 9/3/71
ENGR [illegible] 10/22/71
APPD [illegible] 10/22/71
APPD [illegible] [illegible]

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varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664

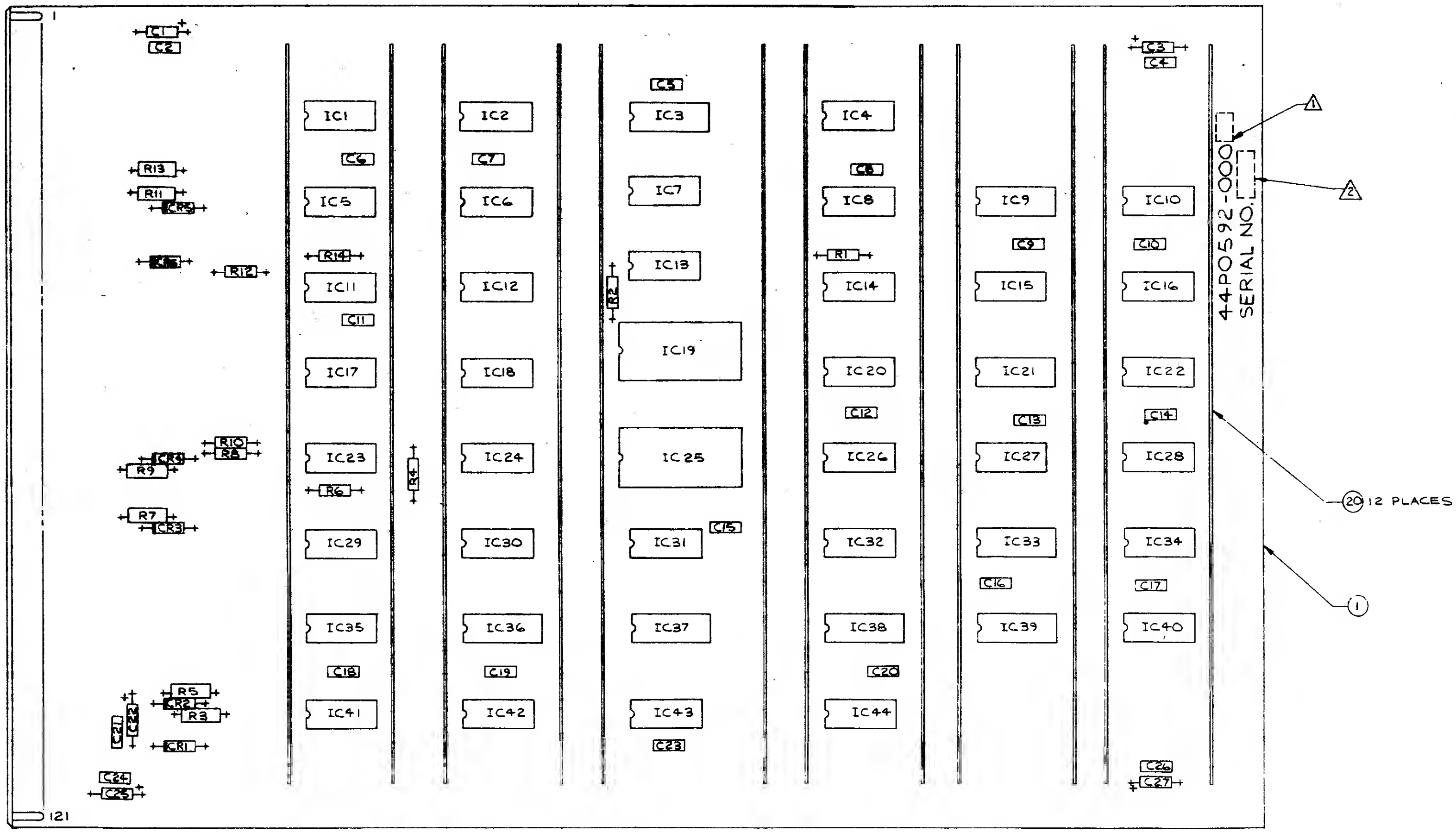
TITLE
DRIVER/SINK SWITCH
ASSY

CODE IDENT NO. 21101
SIZE D
DWG NO 44D0578
REV D
SCALE 2/1
SHEET 1 OF 1

4/71 DIETZGEN-POST CLEARPRINT

44D0592 A

		REVISIONS		
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X	JJ	PROTOTYPE RELEASE		
X2	CW	REVISED NOTE 1 & ADDED NOTE 2	R. E. Hanson	12-22-71
X3	C.W	MOVED CR6	R. E. Hanson	1-13-72
A		PRODUCTION RELEASE EN 30331		1/13/72



44D0592 A

FOR PARTS LIST SEE 44P0592

REFERENCE DRAWINGS

40D0505	P W BOARD
97D0696	SOLDER MASK
97D0695	SILKSCREEN
97D0694 ·	ARTWORK
91C0356	LOGIC DIAGRAM

△2 MARK SERIAL NO. WHERE SHOWN USING .12 HIGH PERMANENT CHARACTERS.

△1 MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED APPROX. WHERE SHOWN. IDENTIFICATION TO BE .12 HIGH CHARACTERS AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

MODEL NO. 620/L-100

NEXT ASSY CIP1277

MATERIAL

FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°

BREAK ALL SHARP EDGES .030 R APPROX

DO NOT SCALE DRAWING

DR J. Bell 11/18/71
CHK 1/12/72
DSGN J. Bell 11/18/71
ENGR R. E. Hanson 1-13-72
APPD 1-13-72
APPD

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varian data machines a varian subsidiary
2722 michelson drive / irvine / california / 92664

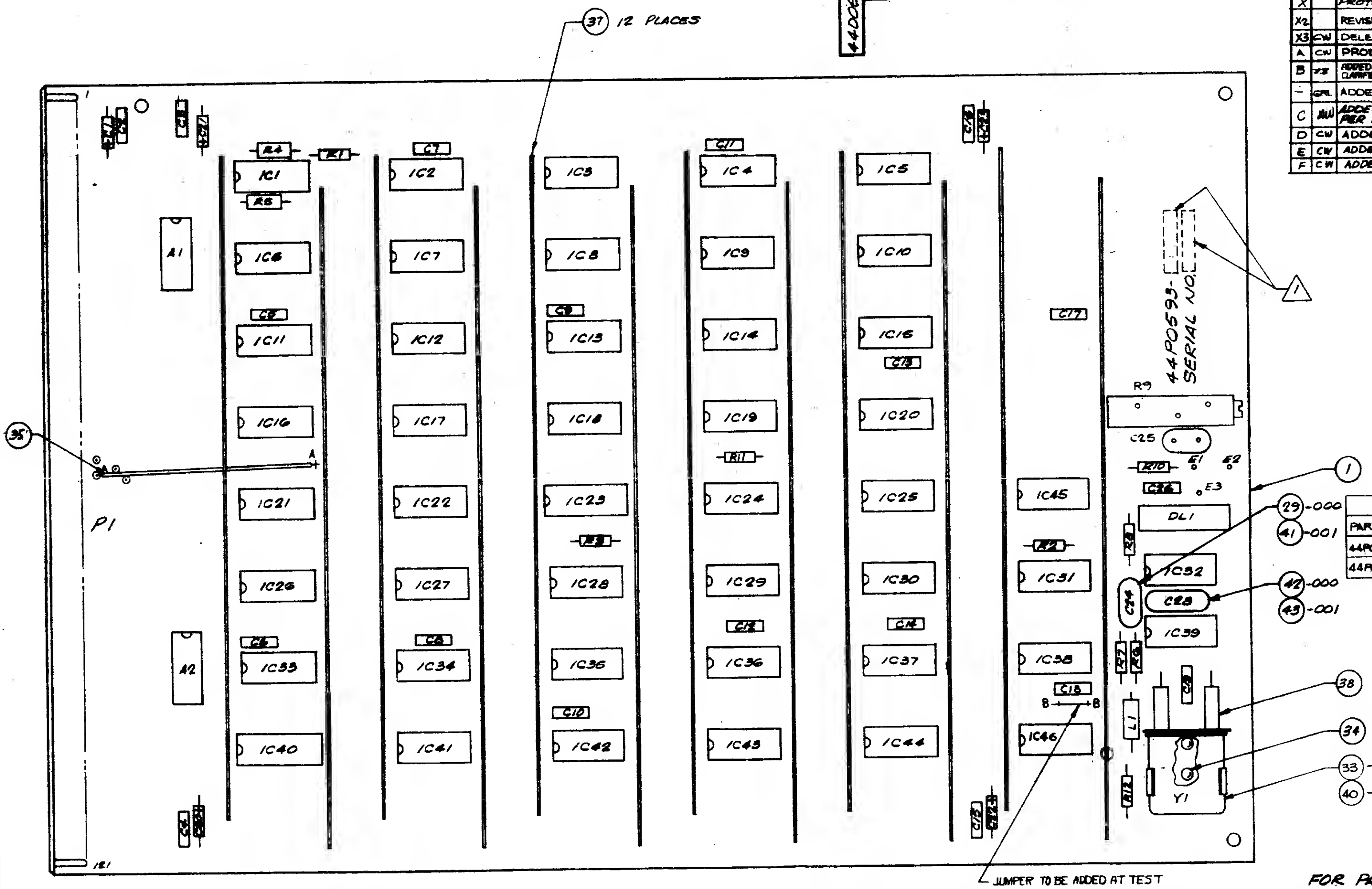
TITLE REGISTER CARD ASSY DM336

CODE IDENT NO. 21101
SIZE D
DWG NO 44D0592
REV A
SCALE 2/1
SHEET OF

CAUTION: EN 82268
AFFECTS THIS DWG.

REVISIONS

SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE		
X2		REVISED, ADDED IC46	E.C. Hanson	12-10-71
X3	CW	DELETED F/N 35, ADDED C27, R11		
A	CW	PRODUCTION RELEASE PER EN 80380	[illegible]	1/12/72
B	[illegible]	ADDED JUMPER (ITEM 13) BETWEEN E & L CLARIFIED MOUNTING OF C27 PER EN 80399	B.B.	[illegible]
–	GRL	ADDED -001 VERSION PER EN 81072	[illegible]	[illegible]
C	[illegible]	ADDED L1 & C28. REMOVED C27 PER EN 81176	[illegible]	[illegible]
D	CW	ADDED R9 & C25 PER EN 81444	R99	[illegible]
E	CW	ADDED R10 TO R10 PER EN 81482	R99	[illegible]
F	CW	ADDED IC46 & R12 PER EN 81523	R99	[illegible]



DASH NUMBER CHART

PART NUMBER	MODEL NO.	DESCRIPTION
44P0593-000	620L-100	CRYSTAL, 4.210526 MHz
44P0593-001	620L	CRYSTAL, 2.2 MHz

44D0593 F

FOR PARTS LIST SEE 44P0593

REFERENCE DRAWINGS

40D0606 — PW BOARD
91D0357 — LOGIC DIAGRAM
97D0697 — ARTWORK
97D0698 — SILKSCREEN
97D0699 — SOLDER MASK

~~2. NOTATION N/U DENOTES COMPONENT NOT USED~~

1. MARK APPROPRIATE DASH NUMBER AND THE REVISION LETTER OF THE PARTS LIST TO WHICH THE PART WAS MANUFACTURED AND SERIAL NO. APPROXIMATELY WHERE SHOWN. IDENTIFICATION TO BE .12 HIGH CHARACTERS, PERMANENT AND LEGIBLE.

NOTE: UNLESS OTHERWISE SPECIFIED

MODEL NO.	620L-100
NEXT ASSY	01A1277
MATERIAL	
FINISH	

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	D. Wise	11/18/71
CHK	WMD	[illegible]/71
DSGN	D. Wise	11/18/71
ENGR	E.C. Hanson	[illegible]
APPD	[illegible]	[illegible]
APPD		

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varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE
PROCESSOR CONTROL
NO.4 ASSY DM357

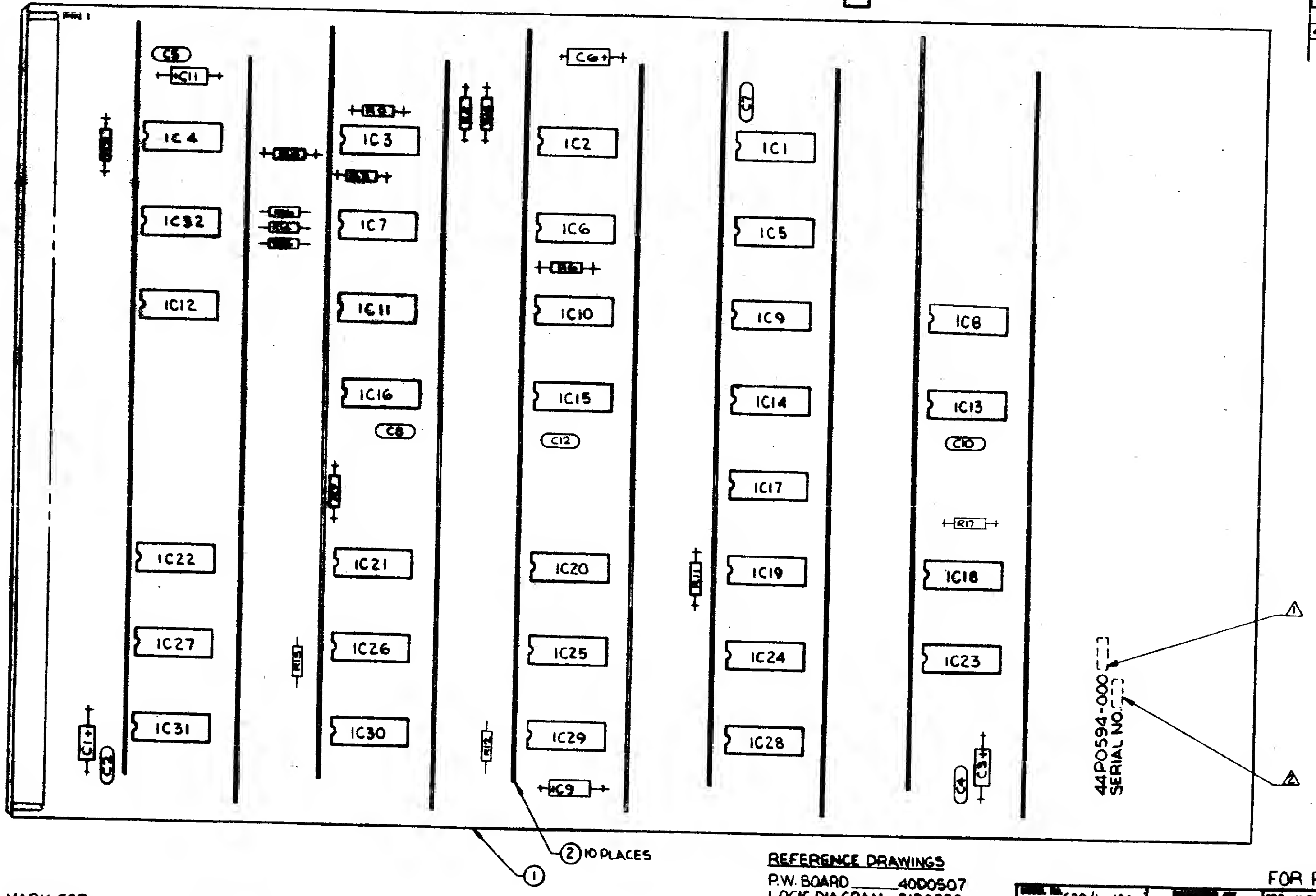
CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	44D0593	F

SCALE 2/1 SHEET 1 OF 1

44D0594 C

REVISIONS

[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
X	CW	PROTOTYPE RELEASE		
X2	CW	ADDED CAPS C11, C12	[illegible]	[illegible]
A		PRODUCTION RELEASE PER EN 80377	[illegible]	[illegible]
B	GR	ADDED R12 THRU R16 PER EN 81875	[illegible]	[illegible]
C	[illegible]	ADDED R17 PER EN 81891	[illegible]	[illegible]



44D0594
C

⚠1 MARK SERIAL NO. WHERE SHOWN USING .12 HIGH PERMANENT CHARACTERS.

⚠2 MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED. APPROX. WHERE SHOWN IDENTIFICATION TO BE .12 HIGH AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

P.W. BOARD ______ 40D0507
LOGIC DIAGRAM __ 91D0358
PHOTOMASTER __ 97D0700
SOLDERMASK ____ 97D0701
SILKSCREEN ____ 97D0702

FOR PARTS LIST SEE 44P0594

MODEL NO. 620/L-100
NEXT ASSY 01A0145
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND APPLY AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
X ±.1
XX ±.03
XXX ±.010
ANGLES ±0.5°
BREAK ALL SHARP EDGES AND R APPROX
DO NOT SCALE DRAWING

DRC. WARNER 10-18-71
CHK [illegible] 1-14-72
DSGN —
ENGR R.E. Thomson 1-18-72
APPD [illegible]
APPD

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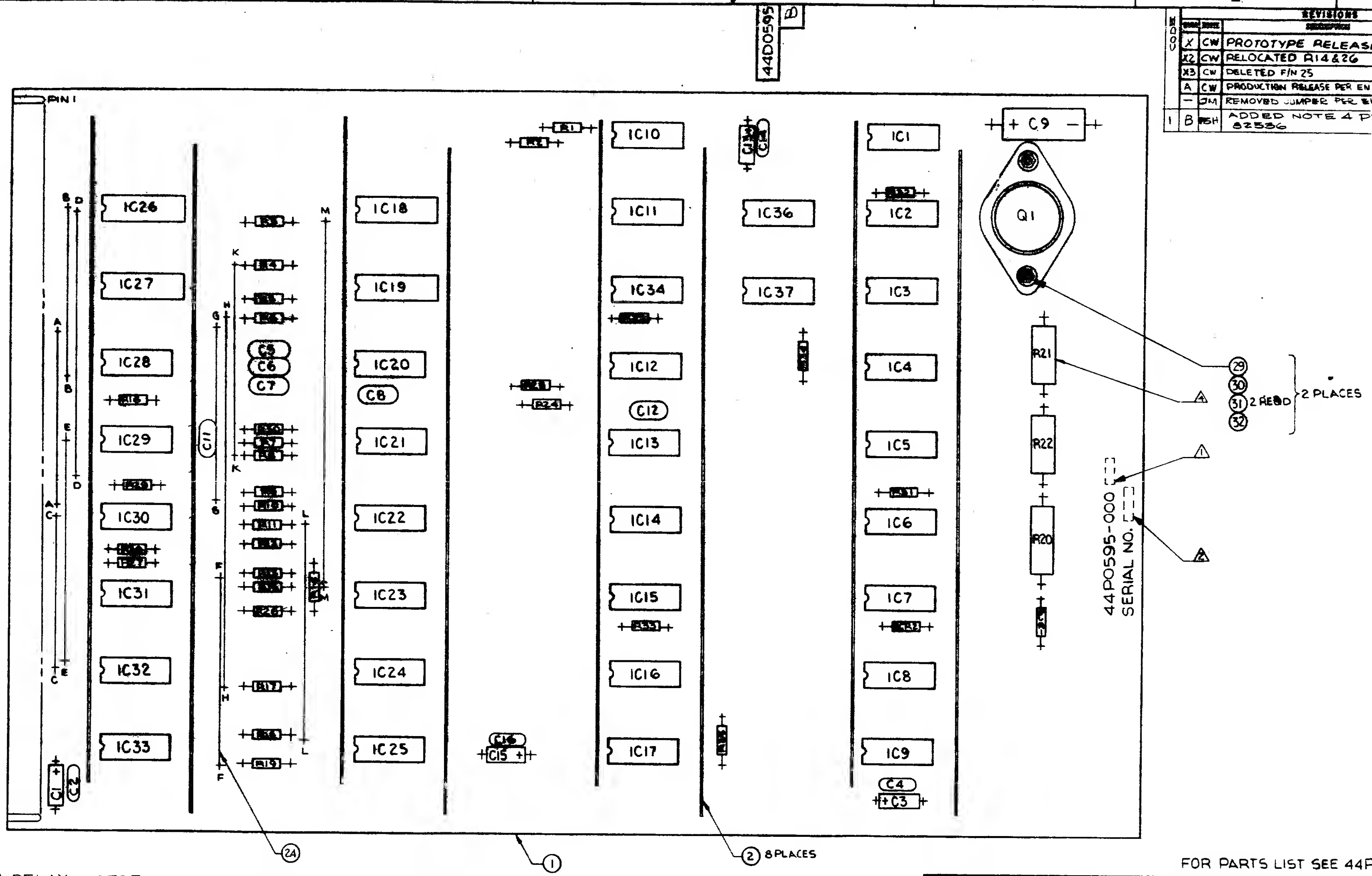
varian data machines / a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE MULTIPLY/DIVIDE, EA.
DM 338 ASSEMBLY

CODE IDENT NO. 21101
SIZE D
DWG NO 44D0594
REV C
SCALE 2/1
SHEET 1 OF 1

REVISIONS					
CODE	LTR	ZONE	DESCRIPTION	APPROVED	DATE
	X	CW	PROTOTYPE RELEASE		
	X2	CW	RELOCATED R14 & 26	R.E. Hanson	12-2-71
	X3	CW	DELETED F/N 25	R.E. Hanson	1-11-72
	A	CW	PRODUCTION RELEASE PER EN 80381		1/11/72
	—	JM	REMOVED JUMPER PER EN 80528		11/2/72
1	B	RSH	ADDED NOTE 4 PER EN 82536		1-18-74



44D0595
B

FOR PARTS LIST SEE 44P0595

4. DELAY INSERTION OF R21 UNTIL AFTER CLEANING IN FREON.
3. MOUNT R20, R21, & R22 .06 OFF OF BOARD
2. MARK SERIAL NO. WHERE SHOWN USING .12 HIGH PERMANENT CHARACTERS.
1. MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED. APPROX. WHERE SHOWN, IDENTIFICATION TO BE .12 HIGH CHARACTERS & PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS
LOGIC DIAGRAM - - - 91D0359
PHOTOMASTER - - - - 97D0703
BOARD DETAIL - - - - 40D0508

SOLDERMASK - - - - 97D0705
SILKSCREEN - - - - 97D0704

MODEL NO. 620/L-100
NEXT ASSY 01A1277
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND APPLY AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .005
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	C. WARNER	10-12-71
CHK	RJH	1/11/72
DSGN	—	—
ENGR	R.E. Hanson	1-11-72
APPD	B.A. Lasker	1-11-72
APPD		

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varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664

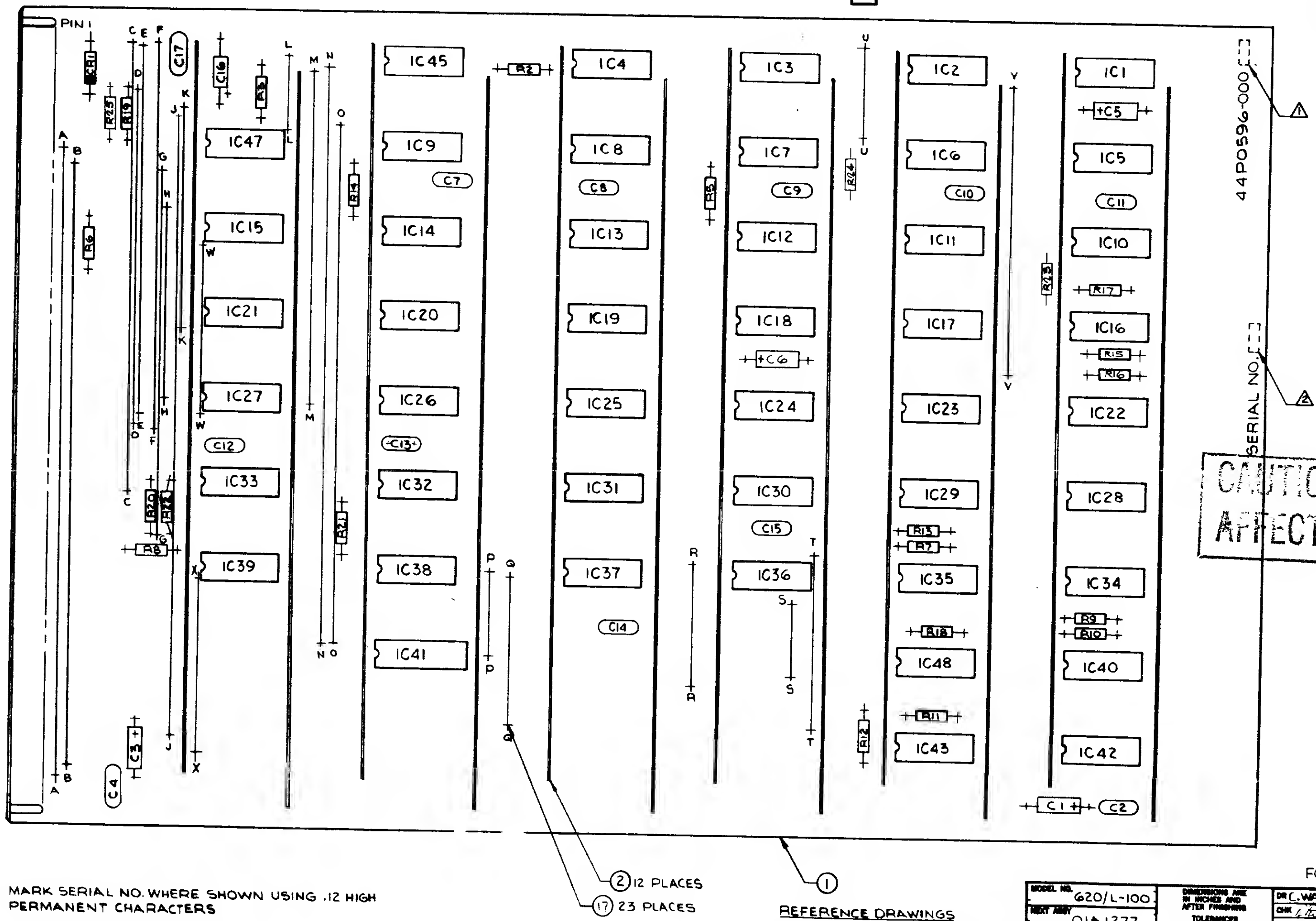
TITLE
PROCESSOR CONTROL NO 1.
DM 339 - ASSEMBLY

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	44D0595	B

SCALE 2/1
SHEET 1 OF 1

REVISIONS

SYM	ZONE	DESCRIPTION	APPROVED	DATE
X	CW	PROTOTYPE RELEASE		
X2	CW	ADDED RESISTORS R15-22&C16,&17	T.E. Hanson	12-7-7
X3	CW	DELETED F/N 21	T.E. Hanson	1-10-7
A		PRODUCTION RELEASE PER EN 80375		1/12/73
B		REVISED PER EN 81894		[illegible]/24/75



CAUTION: EN 82844 AFFECTS THIS DWG.

44D0596 B

FOR PARTS LIST SEE 44P0596

1. MARK SERIAL NO. WHERE SHOWN USING .12 HIGH PERMANENT CHARACTERS

2. MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED, APPROX WHERE SHOWN IDENTIFICATION TO BE .12 HIGH AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

LOGIC DIAGRAM	91D0360
PHOTO MASTER	97D0706
PW BOARD	40D0509
SOLDER MASK	97D0708
SILK SCREEN	97D0707

MODEL NO.	620/L-100
NEXT ASSY	01A1277
MATERIAL	
FINISH	

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .030 R APPROX
DO NOT SCALE DRAWING

DR	C. WARNER	10-27-71
CHK		1-12-72
DSGN	——	——
ENGR	T.E. Hanson	1-12-72
APPD		1-12-72
APPD		

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2722 michelson drive / irvine / california / 92664

TITLE
PROCESSOR CONTROL NO 2.
ASSEMBLY DM340

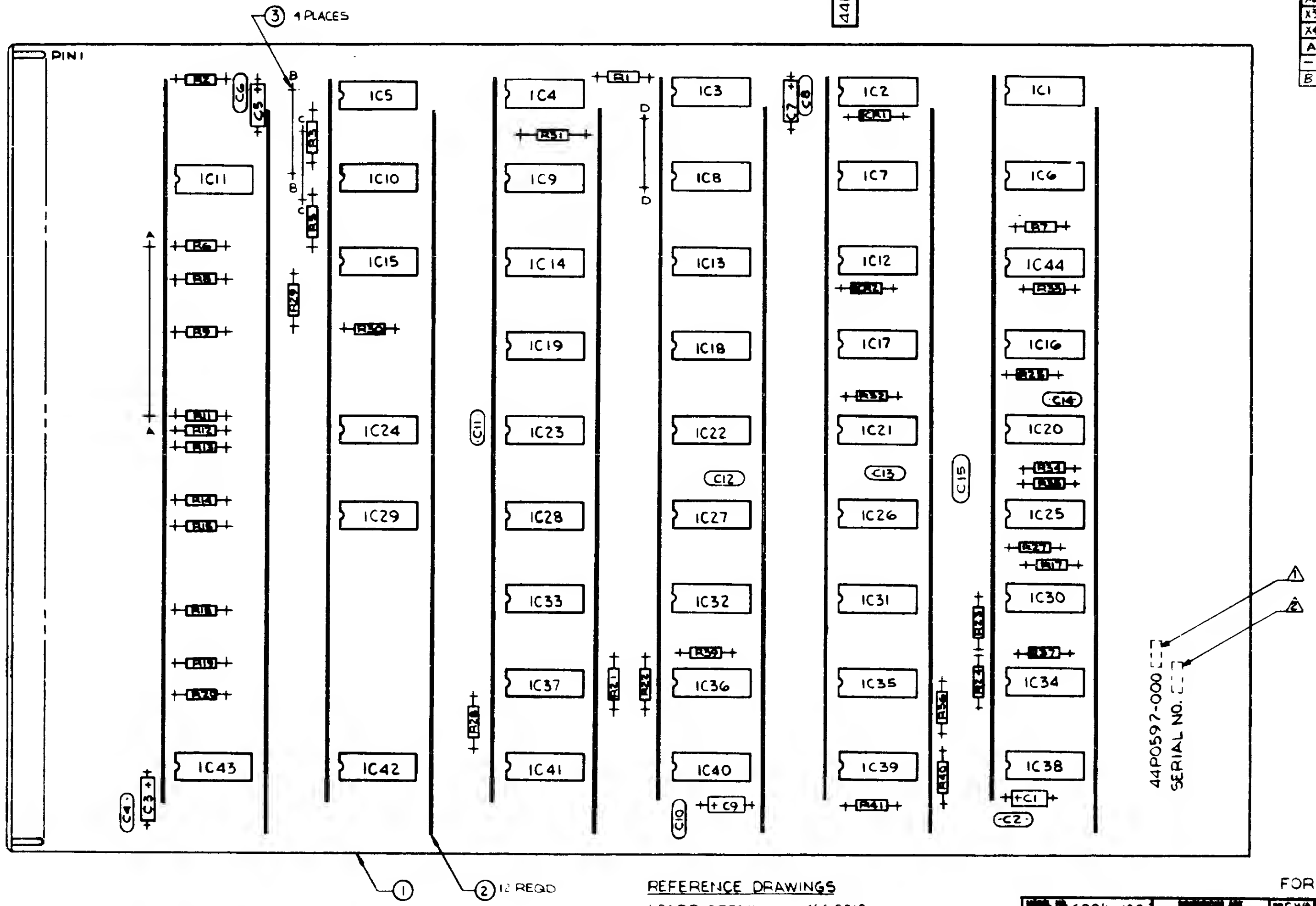
CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	44D0596	B

SCALE —— SHEET 1 OF 1

44D0597 B

REVISIONS

SYM	ZONE	DESCRIPTION	APPROVED	DATE
X	C.W.	PROTOTYPE RELEASE	R.E.K.	
X2		ADDED IC44	R.E.K.	
X3		DELETED R26	T.E. Hanson	12-2-71
X4		DELETED F/N 4	T.E. Hanson	1-10-72
A		PRODUCTION RELEASE PER EN 80376		4/4/72
—		DELETED R38 PER EN 80513		4/4/72
B	F/N	ADDED C15 PER EN 80832		4/4/72



44D0597 B

⚠1 MARK SERIAL NO. WHERE SHOWN, USING .12 HIGH PERMANENT CHARACTERS.

⚠2 MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED. APPROX. WHERE SHOWN IDENTIFICATION TO BE .12 CHARACTERS AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

BOARD DETAIL	40D0510
PHOTO MASTER	97D0709
LOGIC DIAGRAM	91D0361
SOLDER MASK	97D0711
SILK SCREEN	91D0710

FOR PARTS LIST SEE 44P0597

MODEL NO. 620/L-100	DIMENSIONS ARE IN INCHES AND AFTER FINISHING	DR C.WARNER	10-14-71	varian data machines / a varian subsidiary 2722 michelson drive / irvine / california / 92664
NEXT ASSY 01A1277	TOLERANCES UNLESS OTHERWISE SPECIFIED .X ±.1 .XX ±.03 .XXX ±.010 ANGLES ± 0.5°	CHK	1-12-72	TITLE PROCESSOR CONTROL NO.3 DM341 ASSEMBLY
MATERIAL		DSGN —	—	
FINISH	BREAK ALL SHARP EDGES .020 R APPROX	ENGR T. E. Hanson	1-11-72	CODE IDENT NO. 21101 · SIZE D · DWG NO 44D0597 · REV B
	DO NOT SCALE DRAWING	APPD	1-13-72	SCALE 2/1 · SHEET 1 OF 1
		APPD		
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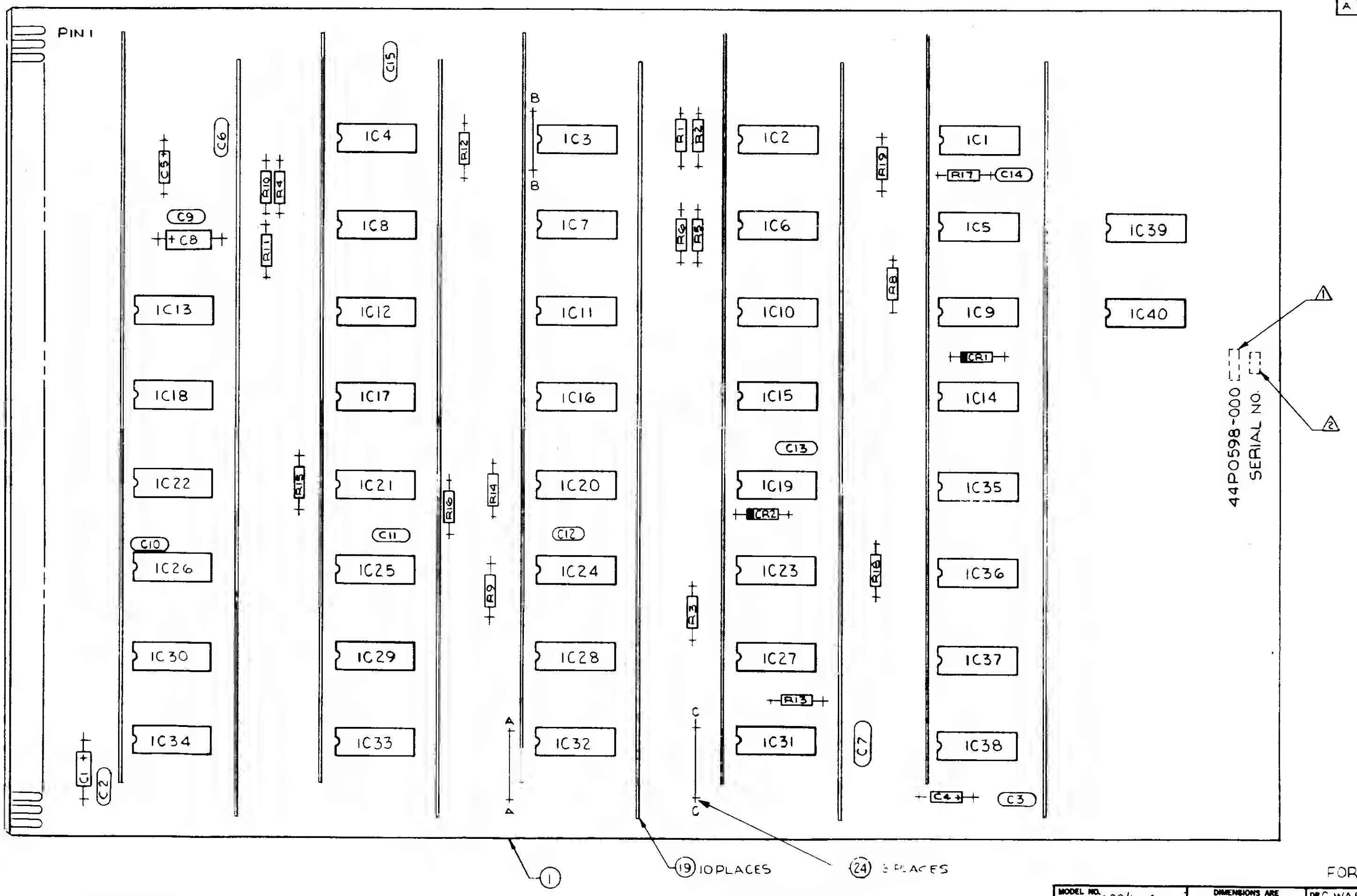
44D0598 A

SYM	ZONE	DESCRIPTION	APPROVED	DATE
X	CW	PROTOTYPE RELEASE		
X2	CW	REVISED & ADDED C15	T.E. Hanson	12-7-71
X3	CW	DELETED F/N 25		
A	CW	PRODUCTION RELEASE PER EN 80379		



44D0598 A

FOR PARTS LIST SEE 44P0598

△2 MARK SERIAL NO WHERE SHOWN USING .12 HIGH PERMANENT CHARACTERS.

△1 MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED. APPROX. WHERE SHOWN IDENTIFICATION TO BE .12 HIGH CHARACTERS AND PERMANENT

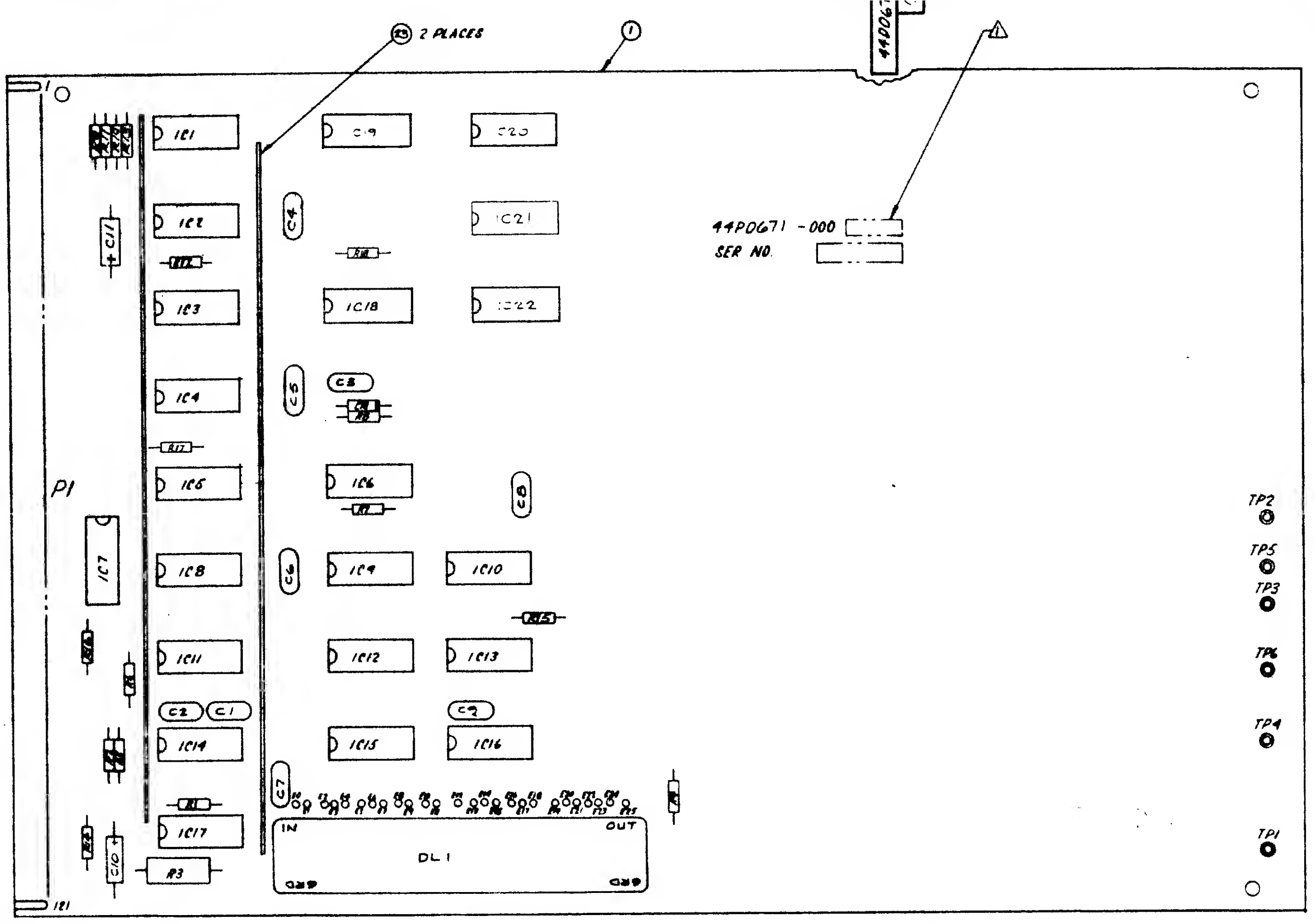
NOTE: UNLESS OTHERWISE SPECIFIED

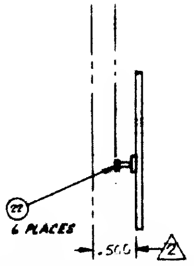
REFERENCE DRAWINGS

LOGIC DIAGRAM	91D0362
PHOTOMASTER	97D0712
P W BOARD	40D0511
SOLDER MASK	97D0714
SILKSCREEN	97D0713

MODEL NO. 620/L-100	DIMENSIONS ARE IN INCHES AND AFTER FINISHING	DR C WARNER	10-14-71	varian data machines a varian subsidiary 2722 michelson drive irvine california 92664
NEXT ASSY 01A1277	TOLERANCES (UNLESS OTHERWISE SPECIFIED) .X ± .1 .XX ± .03 .XXX ± .010 ANGLES ± 0.5°	CHK		TITLE INTERRUPT TRAP ASSEMBLY, DM342
MATERIAL		DSGN		
		ENGR T E Hanson	1-10-72	
		APPD	1-11-72	
		APPD		
FINISH	BREAK ALL SHARP EDGES .010 R APPROX DO NOT SCALE DRAWING	THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT WRITTEN PERMISSION FROM VDM		CODE IDENT NO. 21101 SIZE D DWG NO 44D0598 REV A SCALE 1/1 SHEET 1 OF 1

CODE	REV		DESCRIPTION	APPROVED	DATE
	A		PRODUCTION RELEASE PER EN 9434		
	B		REVISED PER EN 11815		
1	C		ADDED R17 & R18 EN B2526		12-10-75





44D0671
C

FOR PARTS LIST SEE 44P0671

⚠2 MAXIMUM COMPONENT HEIGHT

⚠1 MARK REVISION LETTER OF PARTS LIST TO WHICH PART WAS MANUFACTURED AND SERIAL NO APPROXIMATELY WHERE SHOWN IDENTIFICATION TO BE .12 HIGH CHARACTERS AND PERMANENT.

NOTE: UNLESS OTHERWISE SPECIFIED

REF DRAWINGS

44P0671	PARTS LIST
40D0607	PW BOARD
91D0436	LOGIC
97D0837	ARTWORK

6200-101 E5BG1 A & B

DP1497

MEMURY T & CONT
ASSY
DM 395

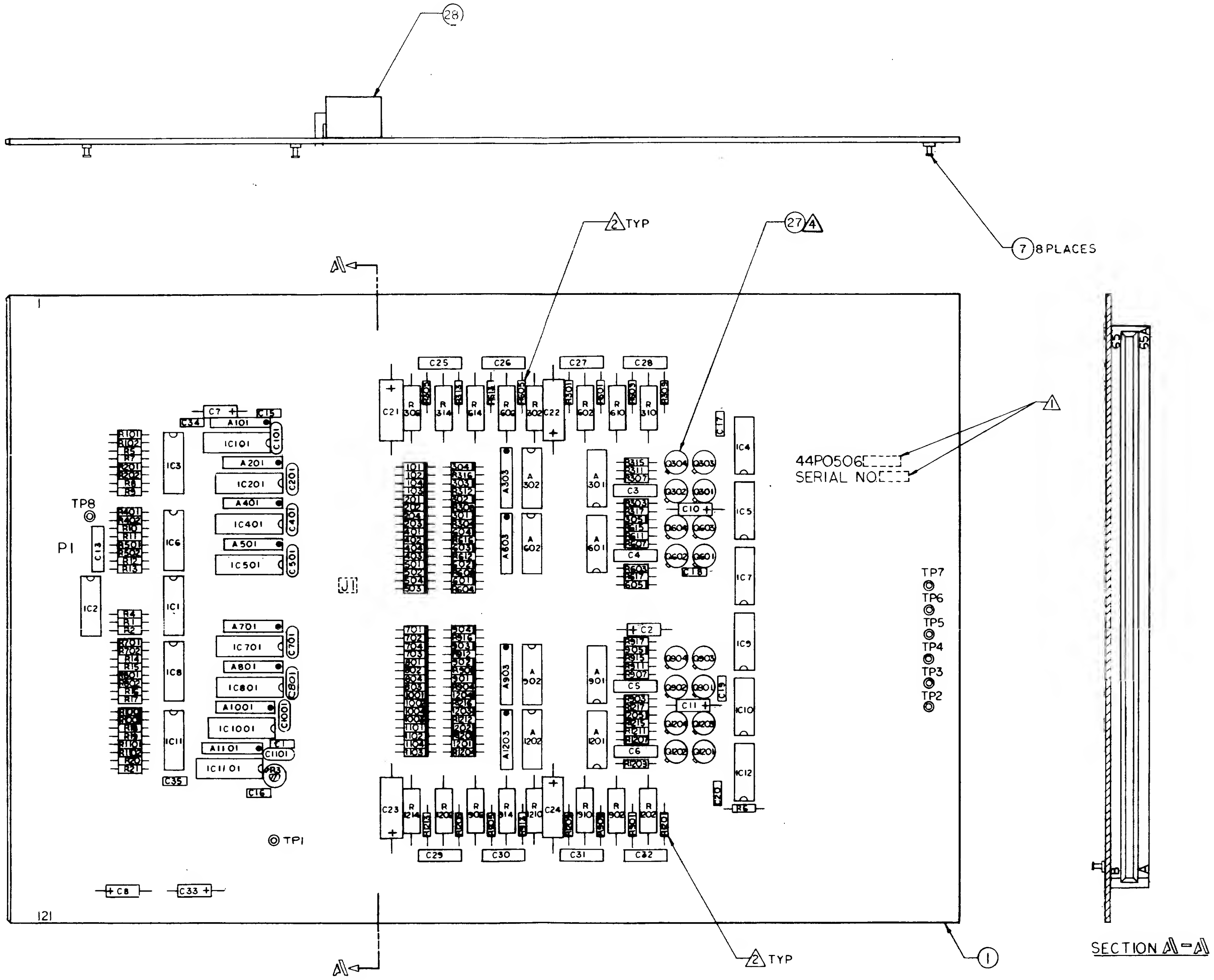
21101	D	44D0671	

SCALE 2/1

SHEET 1 OF 1

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X2		PROTOTYPE RELEASE		
A		PRODUCTION RELEASE EN 5[illegible]	BTZ	5/1-71
B		RELOCATED F-F & E-E EN [illegible]	WJD	5/[illegible]
C	[illegible]	REMOVED CONNECTOR MTG HARDWARE AND STANDOFFS (& HARDWARE). ADD NOTE 3 PER EN 5532	RGG	5/17/71
D	[illegible]	RELOCATED EDGE OF BOARD AND TP2-7 PER EN 554[illegible]	RGG	5/17/71
E	[illegible]	ADDED DASH NO CHART TO F/D PER EN 80415	[illegible]	3/11/72
F		REMOVED ALL JUMPER WIRES PER EN 6[illegible]793	[illegible]	[illegible]
G	CW	ADDED G/N 4 PER EN 81735	WBrown	3-2[illegible]
H	1-[illegible]	R[illegible] SEL P[illegible] EN 817[illegible]2	[illegible]	[illegible]

44E0506



4 USE OF TRANSISTOR PADS OPTIONAL.

3. TOP SOLDER FILLET NOT REQUIRED ON INACCESSIBLE COMPONENT OR CONNECTOR.

2 VALUE FOR THE FOLLOWING COMPONENTS TO BE SELECTED AT FINAL TEST: R301, 305, 309, 313, 601, 605, 609, 613, 901, 905, 909, 913, 1201, 1205, 1209, 1213.

1 MARK APPLICABLE 44P0506 DASH NUMBER AND REVISION LETTER TO WHICH PART WAS MANUFACTURED AND SERIAL NUMBER USING .12 HIGH CHARACTERS APPROXIMATELY WHERE SHOWN

NOTE: UNLESS OTHERWISE SPECIFIED

DASH NUMBER CHART	
PART NUMBER	DESCRIPTION
44P0506-000	SENSE & INHIBIT ASSY
44P0506-001	SENSE & INHIBIT ASSY

FOR PARTS LIST SEE 44P0506

REFERENCE DRAWINGS

40D0454	P. W. BOARD
44P0506	PARTS LIST
91D0285	LOGIC DIAGRAM
97D0533	ARTWORK
97D0555	SILKSCREEN
97D0556	SOLDER MASK

MODEL NO. 620/L
NEXT ASSY 01E1034
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR R. Wike 11/23/70
CHK [illegible] 2/11/71
DSGN R. Wike 11/23/70
ENGR [illegible] 2/11/71
APPD [illegible] 2-19-71
APPD

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[illegible]

TITLE SENSE/INHIBIT ASSY
DM288

CODE IDENT NO. 21101
SIZE E
DWG NO 44E0506
REV [illegible]
SCALE 2/1
SHEET 1 OF 1

DWG NO. 44P0671

REVISIONS

REV	EN	CHG CODE	DESCRIPTION	DR	APPD
F	82526	1	UPDATED REV LTR OF REF DWG'S. WAS: B, UPDATED REV LTR OF FIND Nº 1, WAS: C, REVISED QTY OF F/N 16, WAS: 12, REVISED PART Nº FOR FIND Nº 26, WAS: 49A0508-000	WFR	W.E.S. [illegible]

NEXT ASSEMBLY	01A7497
MODEL NO.	620/L-101-E2861 A & B
DR	D. WISE 1/10/73
CHK	R.A.D.
DSGN	
ENGR	
APPD	
APPD	
CODE IDENT NO.	21101

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TITLE
PARTS LIST - MEMORY T & CONT ASSY, DM395

SIZE	DWG NO.	REV
A	44P0671	F

SHEET 1 OF 3

DWG. NO. 44P0671

PARTS LIST

CODE IDENT 21101

QUANTITY REQ'D PER DASH NO						000	FIND NO	PART NUMBER	DESCRIPTION	REMARKS	ZONE
						REF	—	44D0671 C	ASSEMBLY		
						REF	—	91D0486 C	LOGIC DIAGRAM		
						REF	—	97D0837	ARTWORK		
						REF	—	93A0935	BOOTSTRAP LOADER PROTECT (E-2847)	ENGRG DESCRIPTION	
						1	1	40D0607-000 D	P.W. BOARD		
						2	2	49A0039-000	INTEGRATED CIRCUIT	IC6, 11	
						4	3	49A0023-000	↕	IC7, 13, 18, 19	
						1	4	49A0041-000		IC16	
						2	5	49A0554-001		IC10, 22	
						1	6	49A0003-000		IC9	
						1	7	49A0056-000		IC12	
						1	8	49A0146-001		IC14	
						2	9	49A0079-000		IC8, 15	
						1	10	49A0019-000	INTEGRATED CIRCUIT	IC17	
						2	11	69N1500-101	CAP, 100pf 500V	C1, 2	
						7	12	71A0004-100	CAP, .1uf 50V	C3-9	
						2	13	71N0100-475	CAP, 4.7uf 10V 10%	C10, 11	
						1	14	77S1017-000	DIODE	CR1	
						1	5	80A0039-001	DELAY LINE	DL1	

NEXT ASSY 01A1497

MODEL NO 620L-101-E28W AEB

APPD 1-12-73

REV	A	B	C	D	E
EN NO	81531	81815	81893	82011	82015
DATE	1/10/73	3-19-73	5/28/73	7/6/73	7/6/73
DR	Wise	GRL			
CHK					

TITLE: PARTS LIST
MEMORY T & CONT
ASSY DM 895

DWG NO 44P0671

REV F

SHEET 2 OF 3

20A0017-0008

DWG. NO. 44P0671

PARTS LIST

CODE IDENT: 21101

QUANTITY REQD PER DASH NO	FIND NO	PART NUMBER	DESCRIPTION	REMARKS	ZONE
000					
14	16	65N2500-102	RES, 1K, 1/4W, ±5%	R1, 2, 5, 7, 9–16, 17&18	
1	17	65N2500-181	RES, 180Ω, 1/4W, ±5%	R4	
1	18	65N2500-202	RES, 2K, 1/4W, ±5%	R6	
	19				
1	20	65N2500-103	RES, 10K, 1/4W, ±5%	R8	
1	21	65N1010-680	RES, 68Ω, 1W, ±5%	R3	
6	22	58A0066-002	TERMINAL	TP1 THRU TP6	
2	23	53C0194-000	BUS, POWER		
1	24	49A0060-000	INTEG CIRCUIT	IC20	
1	25	49A0007-000	↑	IC2	
1	26	49A0042-000	↕	IC4	
2	27	49A0510-000	↓	IC1, 5	
1	28	49A0516-000	INTEG CIRCUIT	IC3	
1	29	49A0128-001	NTEG CIRCUIT	IC21	

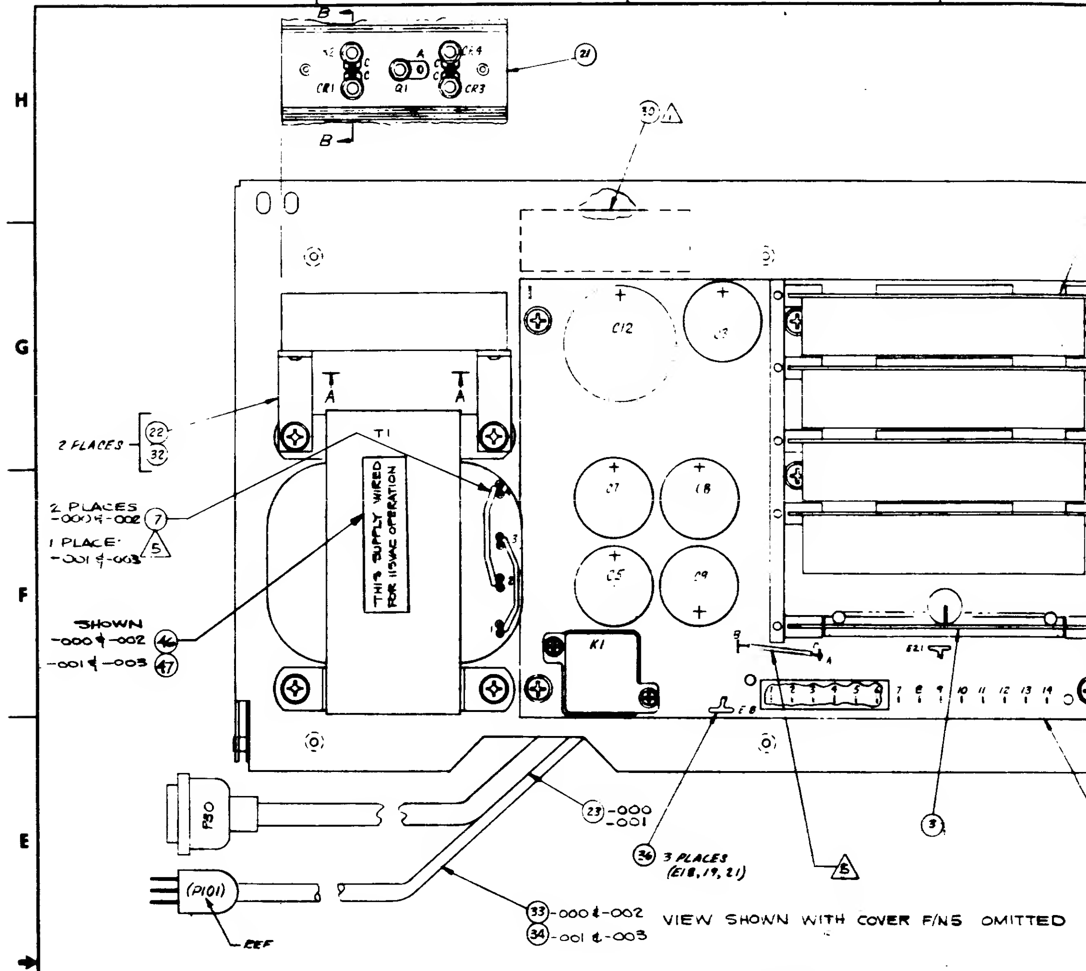
NOTES:

DWG NO	REV
44P0671	F

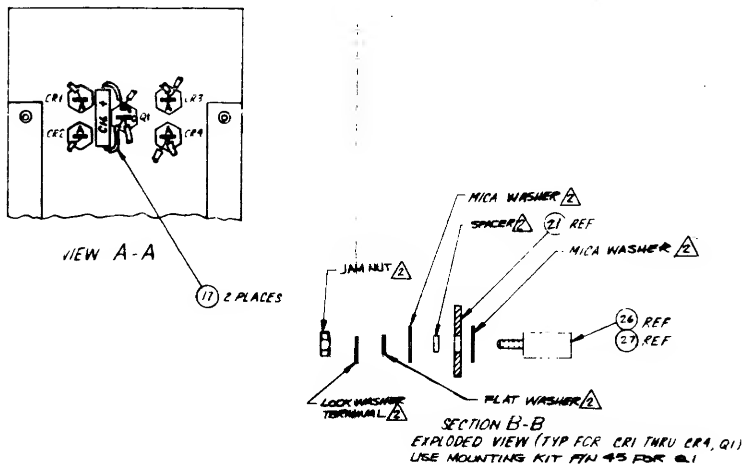
SHEET 5 OF 5

83E0035 G

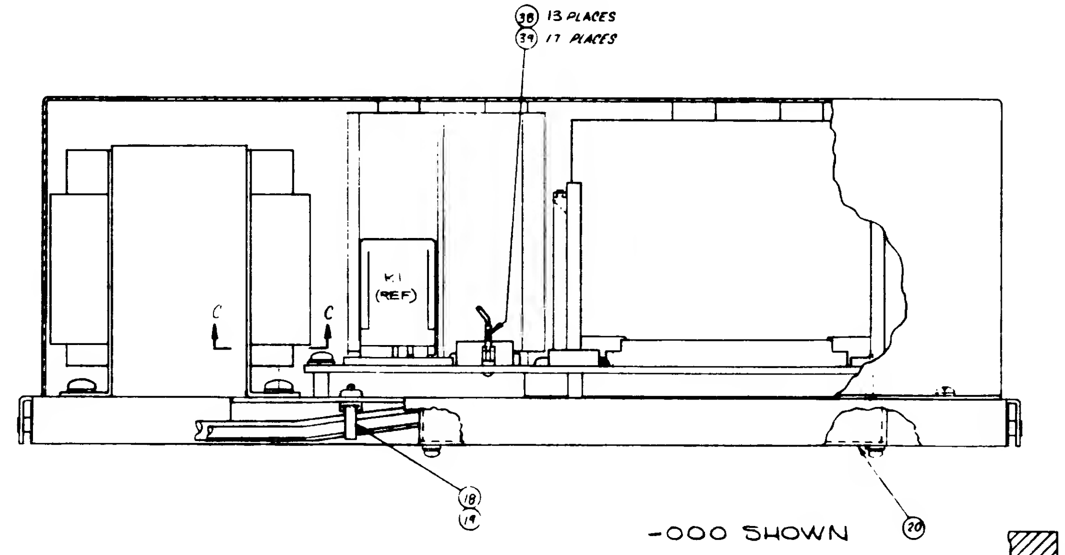
REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE	[illegible]	[illegible]
A		PRODUCTION RELEASE EN 55[illegible]	[illegible]	[illegible]
–		CORRECT HEAT SINK COMPONENT INFORMATION EN 5760	[illegible]	[illegible]
B		[illegible]IN & MARK PART NO. WAS 83E0035-XXX. G/N 5 WAS 83E0035-000, 83E0035-001 CORRECTED CABLE CUTOUT PICTORIAL VIEW TO AGREE WITH BASE CHANGE EN 80014	[illegible]	[illegible]
–		ADDED G/N 7 EN 80118	[illegible]	[illegible]
C		F/D F/N 38 WAS 25 PLACES, F/N 36 & 40 2 PLACES WAS F/N 36 2 PLACES EN 5[illegible]	[illegible]	[illegible]
D	Sm	[illegible] -002 & -003 TO DASH NO. CHART, ADDED F/N 34 & ⚠ TO F/N [illegible] G/N ⚠, REVISED G/N 5 PER EN 80428	[illegible]	[illegible]
E	[illegible]	[illegible] PER EN 80431	[illegible]	[illegible]
–	TM	[illegible]	[illegible]	[illegible]
F	GRL	REVISED PER EN 81575	[illegible]	1/23/73
G	Jm	REVISED PER EN 81908	[illegible]	5/25/73



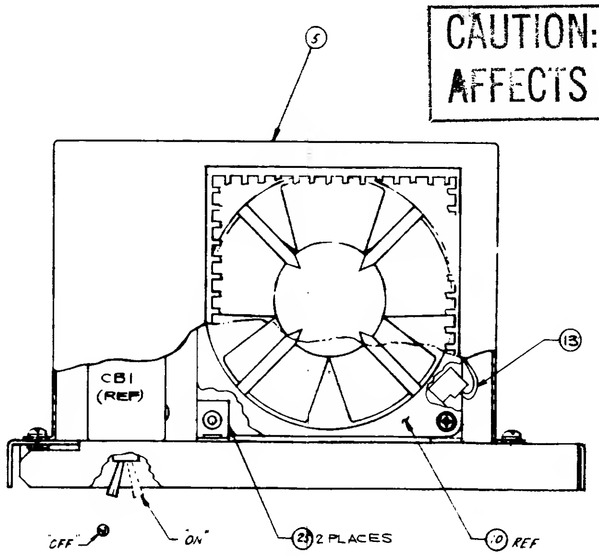
VIEW SHOWN WITH COVER F/NS OMITTED

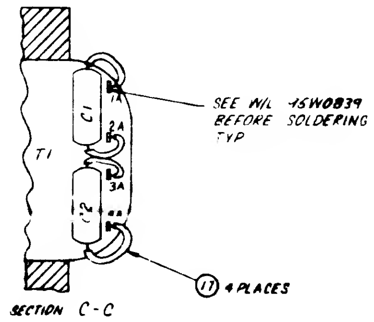


CAUTION: EN 82083
AFFECTS THIS DWG.



-000 SHOWN





83E0035 G

DASH NUMBER CHART	
PART NUMBER	DESCRIPTION
83P0035-000	POWER SUPPLY ASSY 115VAC ⚠5
83P0035-001	POWER SUPPLY ASSY 230VAC ⚠5
83P0035-002	POWER SUPPLY ASSY 115VAC W/O OUTPUT CABLE ⚠5
83P0035-003	POWER SUPPLY ASSY 230VAC W/O OUTPUT CABLE ⚠5

~~8 FOR 230V -001 & -003 CUT OFF 110V PLUG (P101) AND ATTACH 230V PLUG F/N 34~~

7 TORQUE STUDS OF CR1 THRU CR4 & Q1 TO 15 IN-LBS MAX.

~~6 BOND F/N 31 TO F/N 1 USING F/N 35 AS SHOWN~~

⚠5 FOR 115 VAC P/S PART NO 83P0035-000 & -002 JUMPER T1-1 TO T1-3, T1-2 TO T1-4 AS SHOWN. FOR 230 VAC P/S PART NO 83P0035-001 & 003 JUMPER T1-2 TO T1-3 REMOVE JUMPER FROM TERMINATION POINT "B" ON F/N 4 AND CONN

4 USE HARDWARE IN ACCORDANCE WITH 9BA0536

3 WIRE PER W/L 95W0839.

⚠2 SUPPLIED WITH F/N 26.

⚠1 MARK PART NUMBER 83P0035-XXX (USE APPROPRIATE DASH NO) AND THE REVISION LETTER OF THE PARTS LIST TO WHICH THE PART WAS MFD, INPUT VOLTAGE AND SER NO. ON ID TAG F/N 30. ATTACH F/N 30 TO BASE APPROX WHERE SHOWN

NOTE: UNLESS OTHERWISE SPECIFIED

FOR PARTS LIST, SEE 83P0035

620/L-95-5	DR KIUSSIS		TITLE POWER SUPPLY ASSY
01D1034	DSGN KIUSSIS		
			21101 | E | 83E0035 | G
			SCALE 1:1 SHEET 1 OF 1

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4 W, ± 5%
2. THIS DRAWING CONSISTS OF SHEETS 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0
3. ON IC'S 1, 3, 4, 6, 7, 8 & 10 PIN 14 IS CONNECTED TO +5 AND PIN 7 IS CONNECTED TO GRD.
4. PREFIX COMPONENT REFERENCE DESIGNATION NO. WITH CIRCUIT NO. EXAMPLE: CKT 1, R101; CKT 2, R202

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C24	C18,19
CR15, CR_24	
L2	
Q26	
R51, R_09	
RT 2	
IC 11	
A_04	

REFERENCE DRAWINGS	
44D0578	ASSEMBLY
44P0578	PARTS LIST
40D0497	BOARD DETAIL
97D0673	ARTWORK
97D0672	SILKSCREEN
97D0671	SOLDERMASK

DR	8/17/71
CHK	10/19/71
DSGN	9/13/71
ENGR	
APPD	
APPD	

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TITLE
LOGIC DIAGRAM
DR/SK SW

CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C

SCALE —— 6206-100 SHEET 1.0

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE		
X_2		ADDED DIODES IN CKTS 1-4		
A		PRODUCTION RELEASED EN 80250		10/20/71
B		C23 & 24 WAS .33 UF 50VDC EN 80374		4/28/72
C		ADDED CR15 PER EN 81808		5/24/73

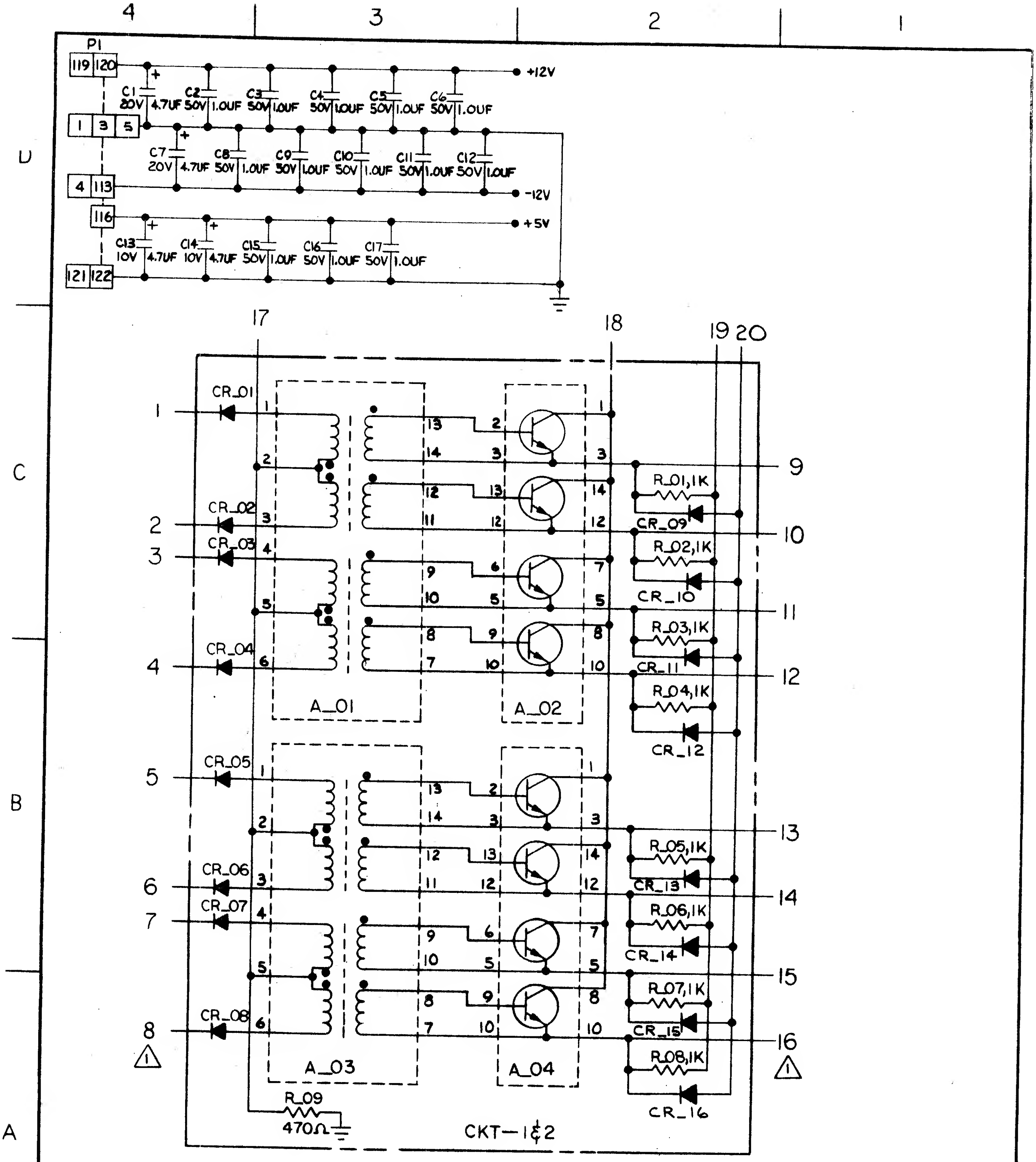
TABLE OF CONTENTS

CONNECTOR P1

PINS	FUNCTION	SHEET	PINS	FUNCTION	SHEET	PINS	FUNCTION	SHEET
1	GRD		42	GRD		83	SPARE	7.0
2			43	LI1X+	8.0	84	CC1B	7.0
3	GRD		44	LI0X+	8.0	85	CC6A	7.0
4	-12V		45	GRD		86	CC0B	7.0
5	GRD		46	LO9X+	8.0	87	CC7A	7.0
6	TCRX-	9.0	47	GRD		88	CC3B	7.0
7	YS6B	8.0	48	RSTX-	9.0	89	CC4A	7.0
8	YS6A	8.0	49	GRD		90	CC2B	7.0
9	YS7B	8.0	50	WSTX-	9.0	91	CC5A	7.0
10	YS7A	8.0	51	GRD		92	CC5B	7.0
11	YS4B	8.0	52	SSLX-	9.0	93	CC2A	7.0
12	YS4A	8.0	53	GRD		94	CC4B	7.0
13	YS5B	8.0	54	LO2X+	9.0	95	CC3A	7.0
14	YS5A	8.0	55	GRD		96	CC7B	7.0
15	YS2B	8.0	56	LO5X+	7.0	97	CC0A	7.0
16	YS2A	8.0	57	GRD		98	CC6B	7.0
17	YS3B	8.0	58	SDIS	7.0	99	CC1A	7.0
18	YS3A	8.0	59	GRD		100	XS6A	8.0
19	YS0B	8.0	60	RXXX-	7.0	101	XS6B	8.0
20	YS0A	8.0	61	NOT AVAILABLE		102	XS7A	8.0
21	YS1B	8.0	62	NOT AVAILABLE		103	XS7B	8.0
22	YS1A	8.0	63	GRD		104	XS4A	8.0
23	CA6A	7.0	64	LO4X+	7.0	105	XS4B	8.0
24	CA1B	7.0	65	GRD		106	XS5A	8.0
25	CA7A	7.0	66	LO1X+	7.0	107	XS5B	8.0
26	CA0B	7.0	67	GRD		108	XS2A	8.0
27	CA4A	7.0	68	LO0X+	7.0	109	XS2B	8.0
28	CA3B	7.0	69	GRD		110	XS3A	8.0
29	CA5A	7.0	70	LO3X+	7.0	111	XS3B	8.0
30	CA2B	7.0	71	GRD		112	XS0A	8.0
31	CA2A	7.0	72	RWT2-	9.0	113	-12V	
32	CA7B	7.0	73	GRD		114	XS1A	8.0
33	CA3A	7.0	74	LI2X+	9.0	115	XS0B	8.0
34	CA6B	7.0	75	GRD		116	+5V	
35	CA0A	7.0	76	RWT1-	9.0	117	XS1B	8.0
36	CA5B	7.0	77	GRD		118		
37	CA1A	7.0	78	LO8X+	8.0	119	+12V	
38	CA4B	7.0	79	LO7X+	8.0	120	+12V	
39	SPARE	7.0	80	LO6X+	8.0	121	GRD	
40	SPARE	7.0	81	GRD		122	GRD	
41	GRD		82	GRD				

CONNECTOR FUNCTIONS

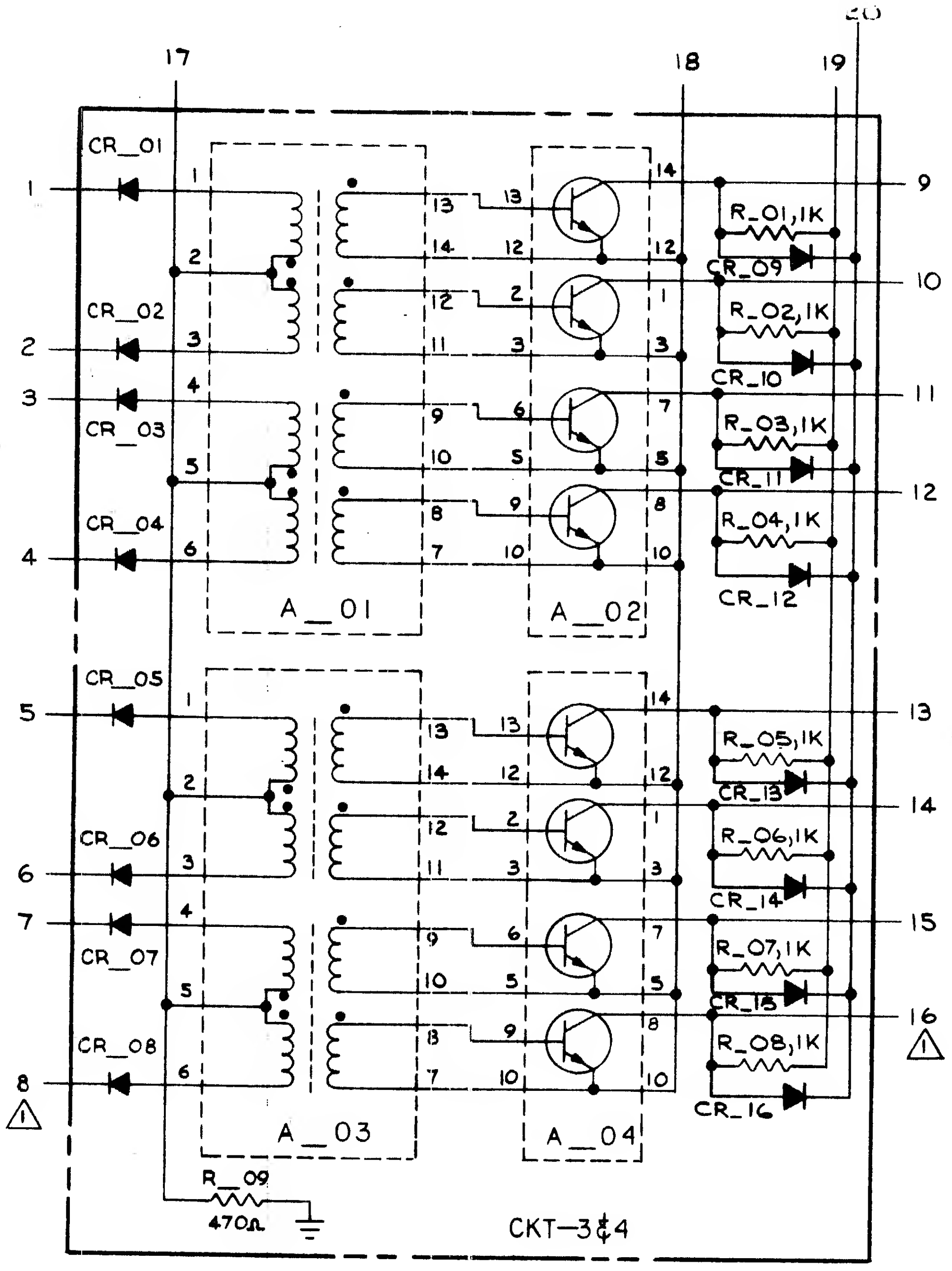
CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —		SHEET 2.0	



⚠ NUMBERS OUTSIDE PHANTOM LINES CORRESPOND TO CIRCUIT BLOCKS 1 & 2 ON SHT 7

DECOUPLING CAPS. & DRIVER SW'S, POSITIVE

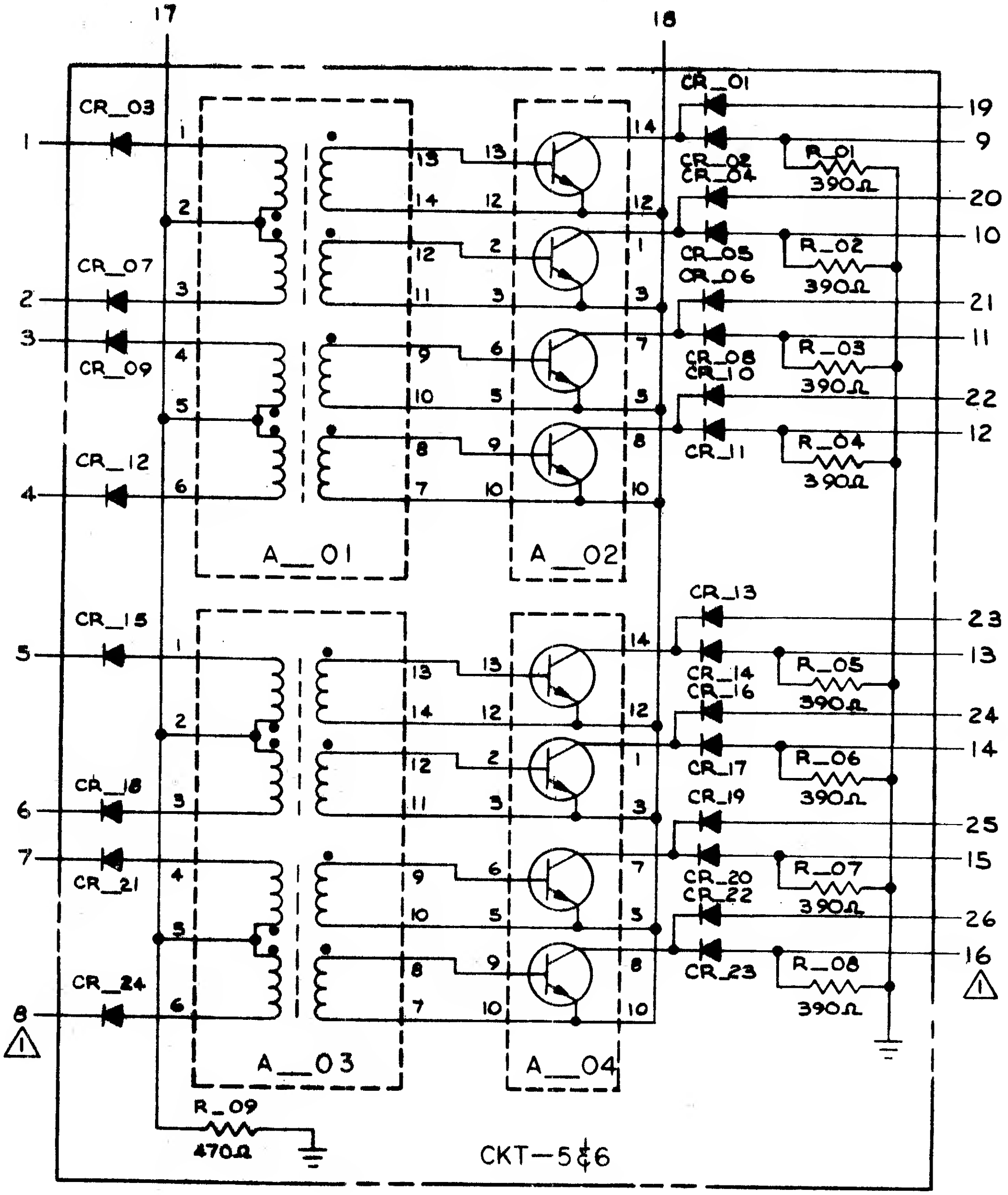
			REV
21101	C	91C0346	C
SCALE —		SHEET 3.0	



⚠ NUMBERS OUTSIDE PHANTOM LINES CORRESPOND TO CIRCUIT BLOCKS 3&4 ON SHT 7

DRIVER SWITCHES, NEGATIVE

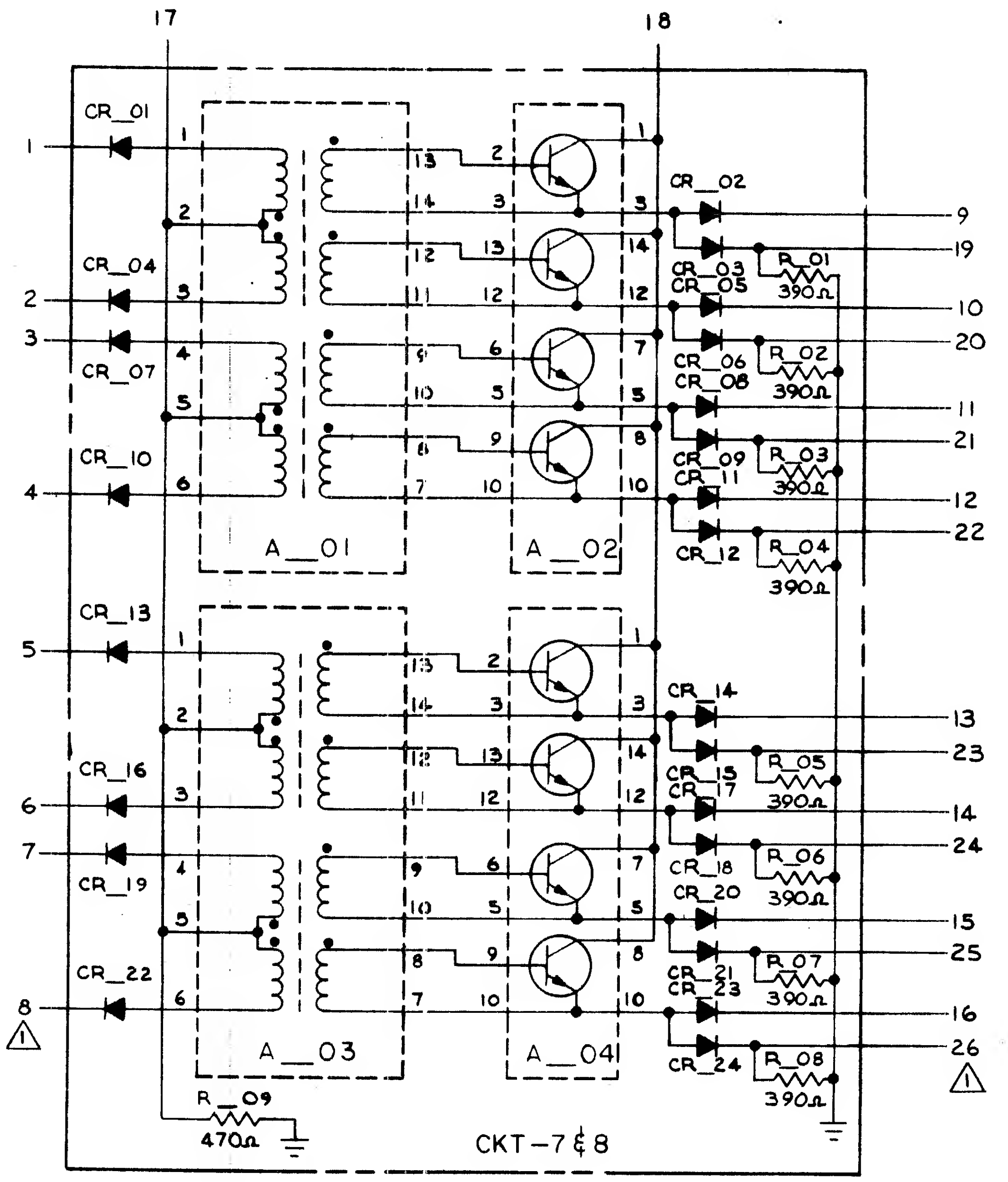
21101	C	91C0346	C
SCALE —		SHEET 4.0	



⚠1 NUMBERS OUTSIDE PHANTOM LINES CORRESPOND TO CIRCUIT BLOCKS 5 & 6 ON SHT 8

SINK SWITCH, NEGATIVE

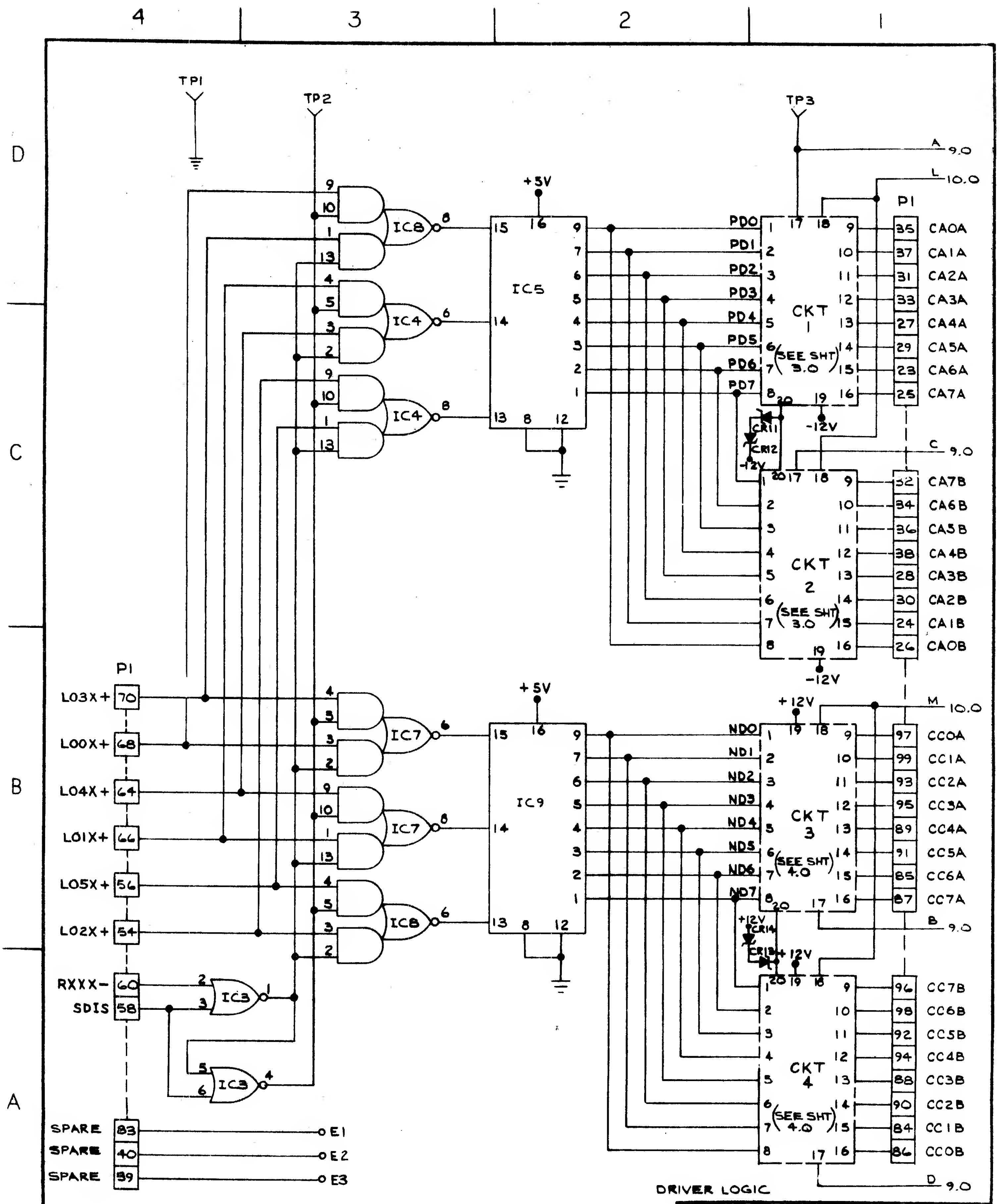
CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —		SHEET 5.0	



△1 NUMBERS OUTSIDE PHANTOM LINES CORRESPOND TO CIRCUIT BLOCKS 7 & 8 ON SHT 8

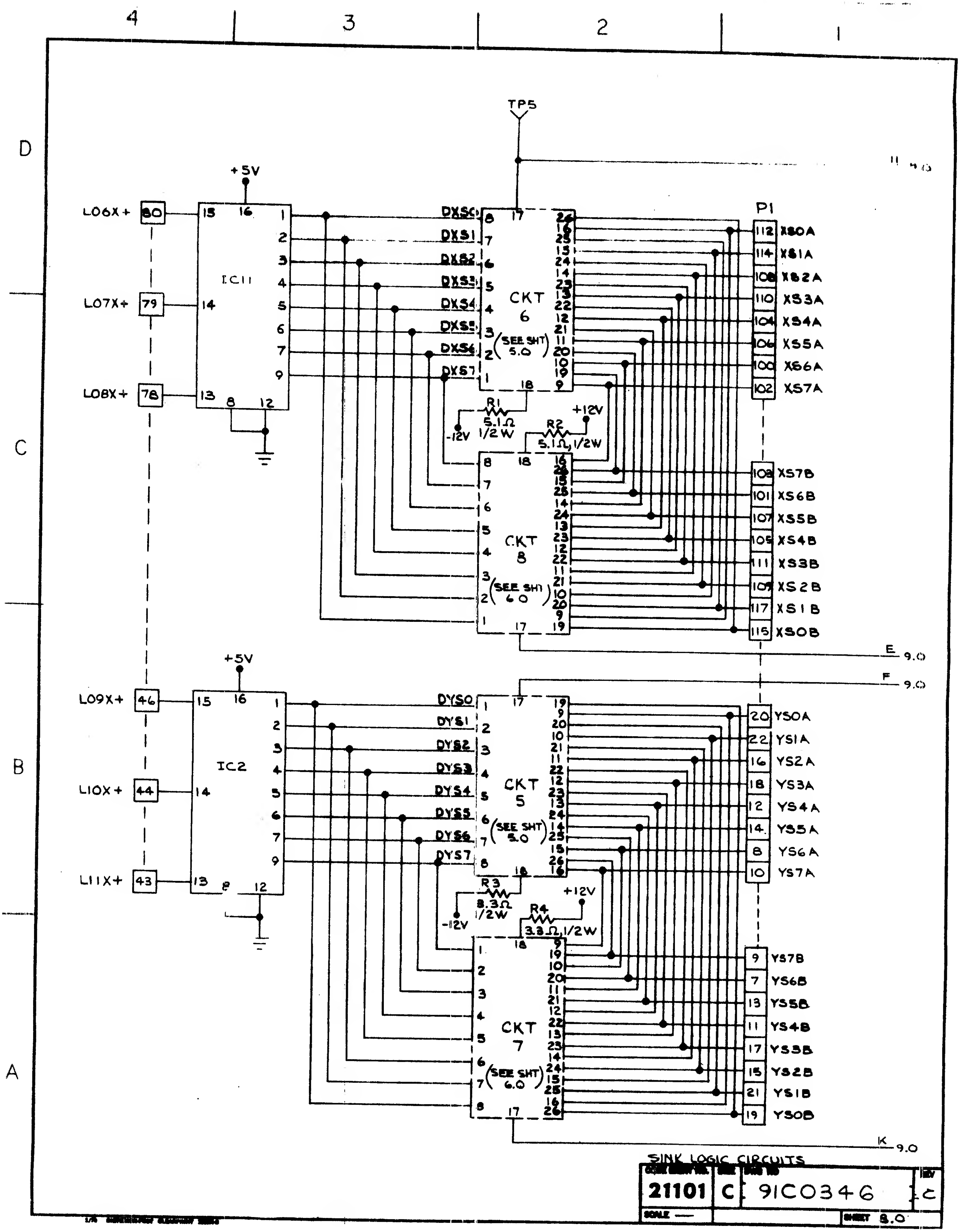
SINK SWITCH POSITIVE

CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —		SHEET 6.0	



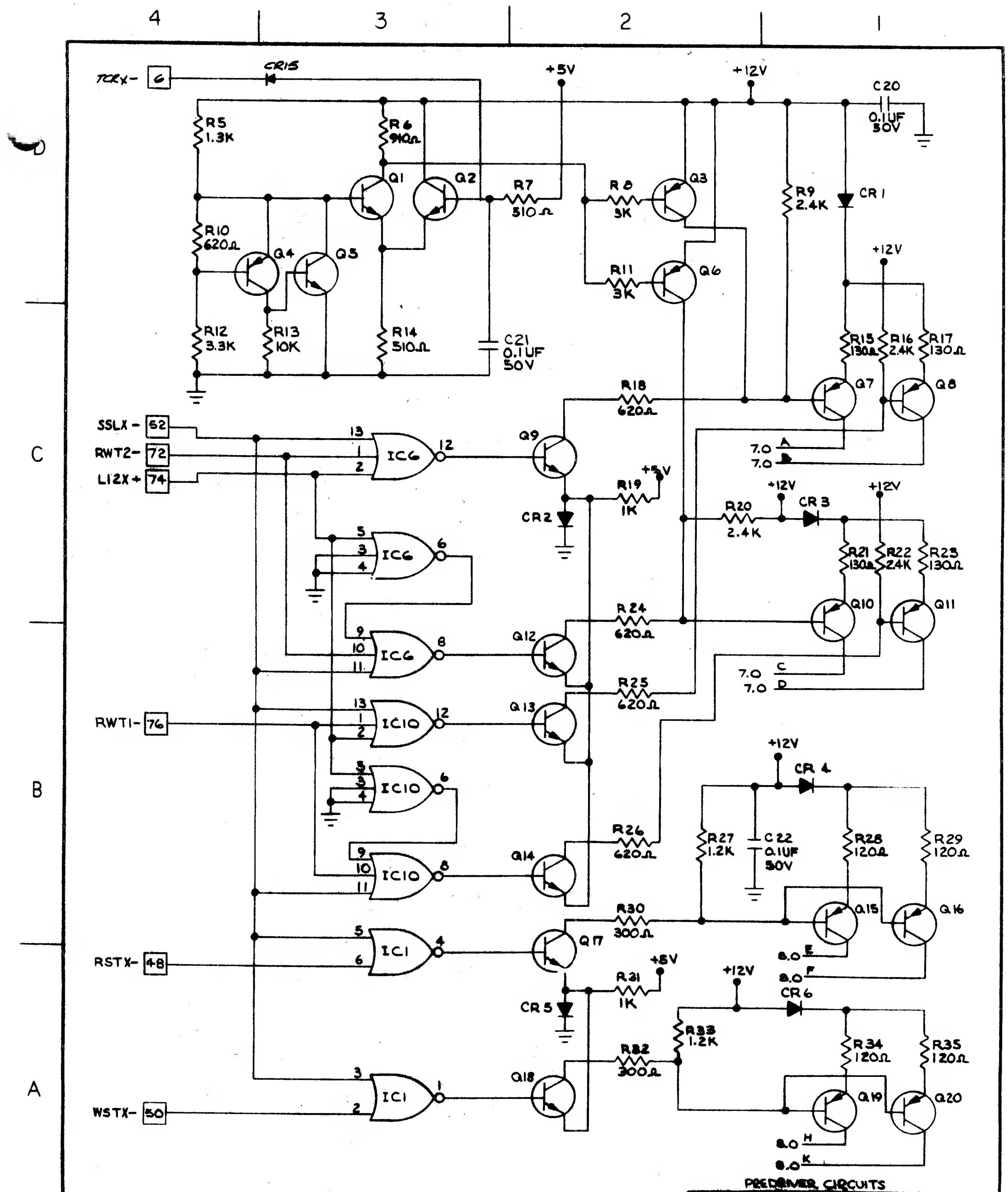
DRIVER LOGIC

CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —		SHEET 7.0	



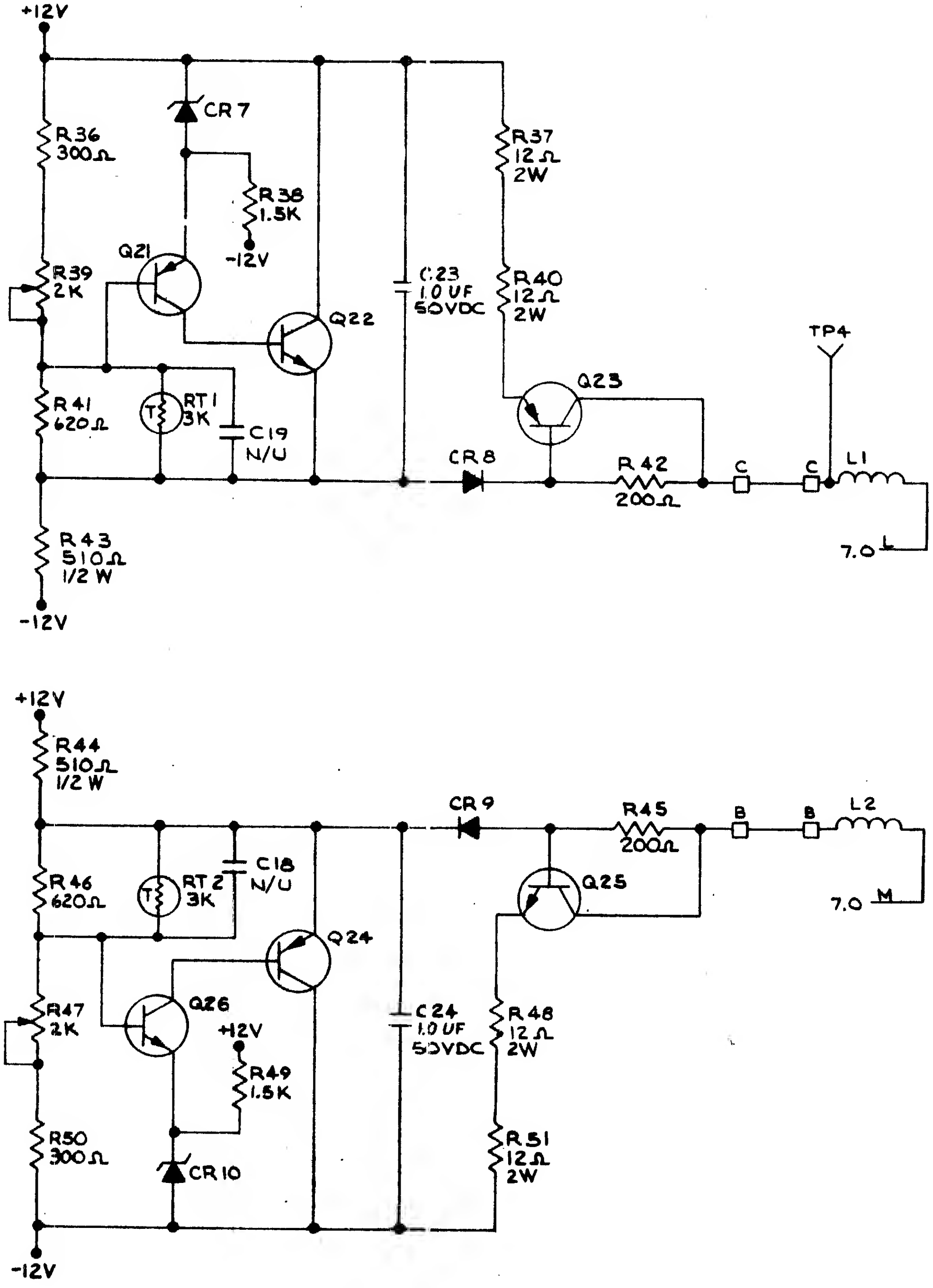
SINK LOGIC CIRCUITS

CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —		SHEET 8.0	



PREDRIVER CIRCUITS

21101	C	91C0346	C
—		SHEET 9.0	

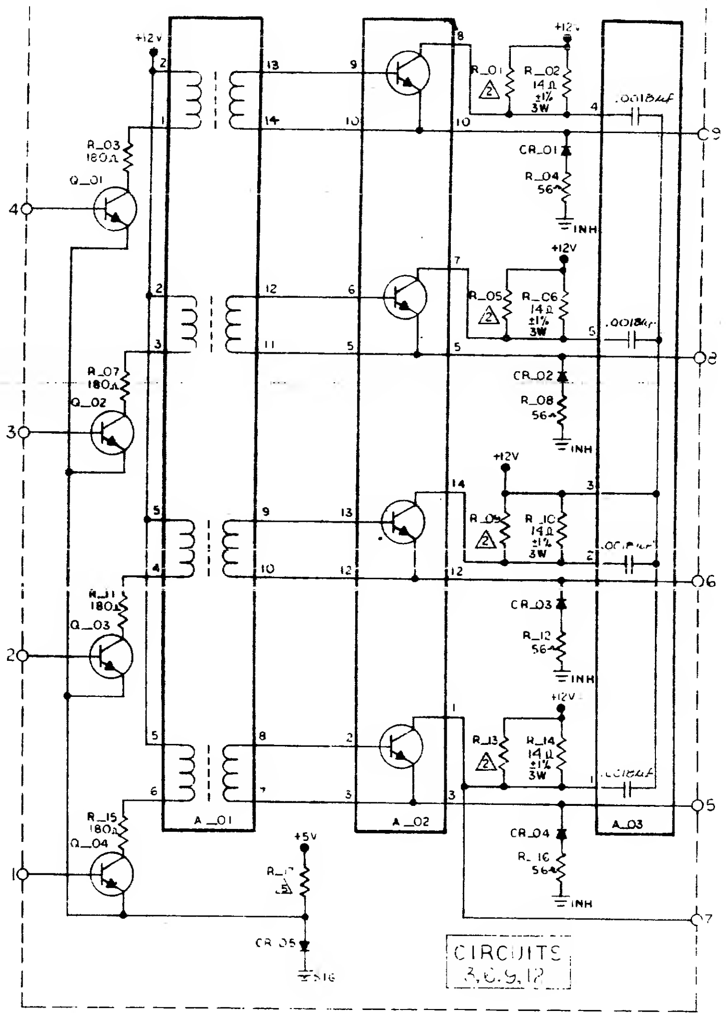


CURRENT SOURCES

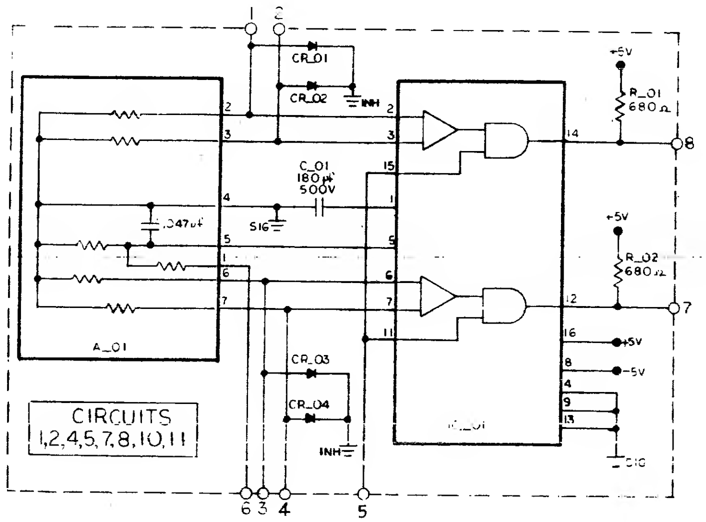
CODE IDENT NO.	SIZE	DWG NO	REV
21101	C	91C0346	C
SCALE —			SHEET 10.0

91D0285 E

SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET ONE		



CIRCUITS 3,6,9,12

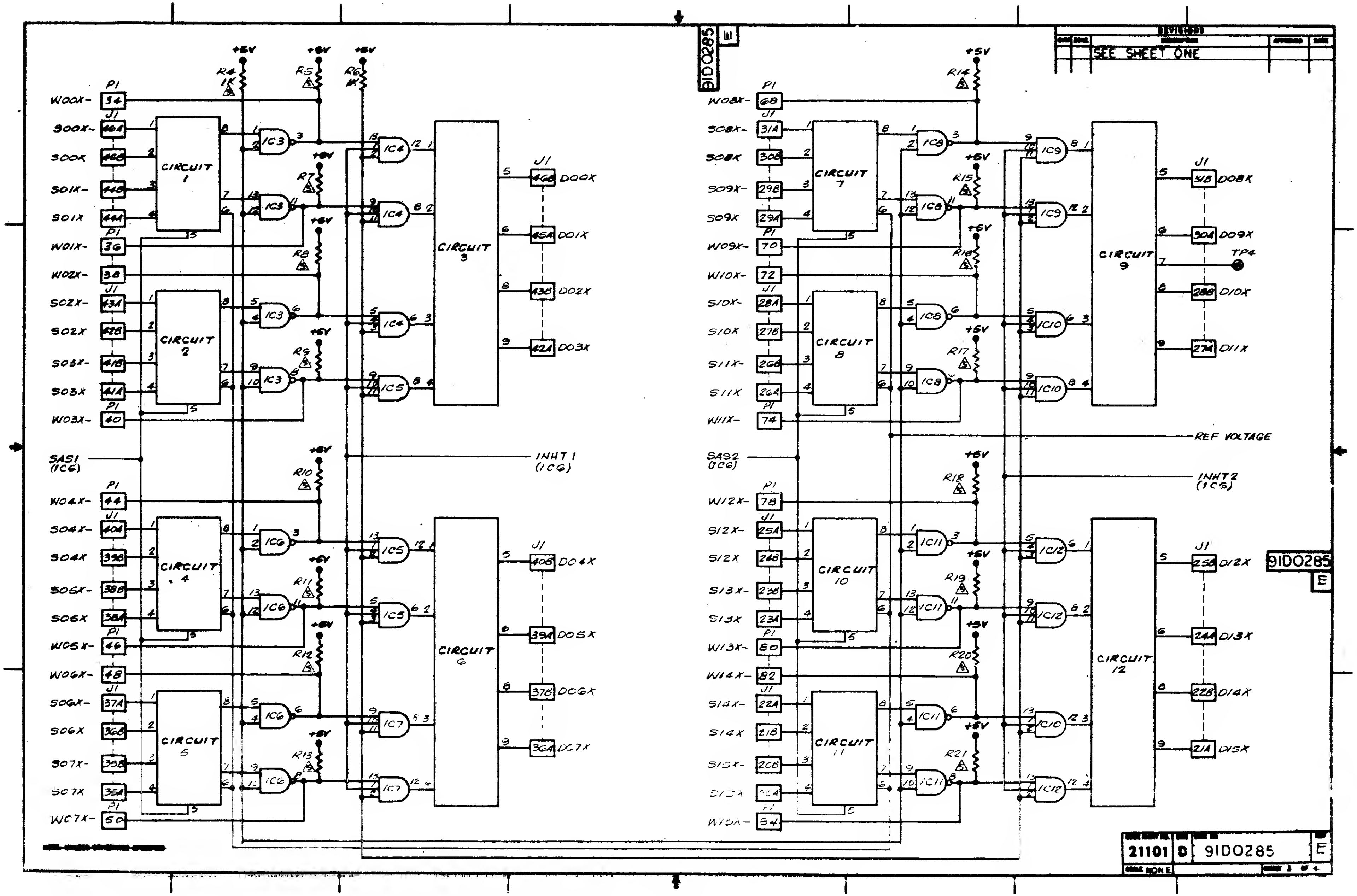


CIRCUITS 1,2,4,5,7,8,10,11

91D0285 E

~~NOTE: UNLESS OTHERWISE SPECIFIED~~

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0285	E
SCALE NONE		SHEET 2 OF 4	



21101 D 91D0285 E

NONE

3 4

91D0285 E

REVISIONS
SEE SHEET ONE

CONNECTOR P1

PIN	FUNCTION	SHEET
1	G SIG	
2	G SIG	
3	G SIG	
4	G SIG	
5	G SIG	
6	CA0X-X	
7	CC0X-X	
8	CA2X-X	
9	CC2X-X	
10	CA4X-X	
11	CC4X-X	
12		
13	CC6X-X	
14		
15	CA6X-X	
16		
17	G SIG	
18	YS6X-X	
19	G SIG	
20	YS7X-X	
21	G SIG	
22	YS4X-X	
23	G SIG	
24	YS5X-X	
25	G SIG	
26	YS2X-X	
27	G SIG	
28	YS3X-X	
29	G SIG	
30	YS0X-X	
31	G SIG	
32	YS1X-X	
33	G SIG	
34	W00X-	3
35	G SIG	
36	W01X-	3
37	G SIG	
38	W02X-	3
39	G SIG	
40	W03X-	3
41	G SIG	

CONNECTOR P1

PIN	FUNCTION	SHEET
42	+5V	
43	G SIG	
44	W04X-	3
45	G SIG	
46	W05X-	3
47	G SIG	
48	W06X-	3
49	G SIG	
50	W07X-	3
51	G SIG	
52	W16X-	
53	G SIG	
54	W17X-	
55	G SIG	
56	INHT-	1
57	G SIG	
58	SSLX-	1
59	G SIG	
60	SASX-	1
63	G SIG	
64	INHE-X	1
65	G SIG	
66	G SIG	
67	G SIG	
68	W08X-	3
69	G SIG	
70	W09X-	3
71	G SIG	
72	W10X-	3
73	G SIG	
74	W11X-	3
75	G SIG	
76	G SIG	
77	G SIG	
78	W12X-	3
79	G SIG	
80	W13X-	3
81	G SIG	
82	W14X-	3
83	G SIG	
84	W15X-	3

CONNECTOR P1

PIN	FUNCTION	SHEET
85	G SIG	
86	SASX-	
87	G SIG	
88	TSHX	
89	G SIG	
90	TSLX	
91	G SIG	
92	XS0X-X	
93	G SIG	
94	XS1X-X	
95	G SIG	
96	XS2X-X	
97	G SIG	
98	XS3X-X	
99	G SIG	
100	XS4X-X	
101	G SIG	
102	XS5X-X	
103	G SIG	
104	XS6X-X	
105	CA7X-X	
106	XS7X-X	
107	CA5X-X	
108		
109	CA3X-X	
110	CC7X-X	
111	CC1X-X	
112	CC5X-X	
113	CA1X-X	
114	CC3X-X	
115	-5V	
116	+5V	
117	+12V	
118	+12V	
119	+12V	
120	+12V	
121	G SIG	
122	G SIG	

CONNECTOR J1

PIN	FUNCTION	SHEET
1A	G SIG	
1B	G SIG	
2A	CA1X-X	
2B	CA1X-X	
3A	CC1X-X	
3B	CC1X-X	
4A	CA3X-X	
4B	CA3X-X	
5A	CC3X-X	
5B	CC3X-X	
6A	CA5X-X	
6B	CA5X-X	
7A	CC5X-X	
7B	CC5X-X	
8A	CA7X-X	
8B	CA7X-X	
9A	CC7X-X	
9B	CC7X-X	
10A		
10B		
11A		
11B		
12A		
12B		
13A	XS6X-X	
13B	XS7X-X	
14A	XS4X-X	
14B	XS5X-X	
15A	XS2X-X	
15B	XS3X-X	
16A	XS0X-X	
16B	XS1X-X	
17A	TSLX	
17B	TSLX	
18A	G SIG	
18B	G SIG	
19A	TSHX	
19B	TSHX	

CONNECTOR J1

PIN	FUNCTION	SHEET
20A	S15X	3
20B	S15X-	3
21A	D15X	3
21B	S14X	3
22A	S14X-	3
22B	D14X	3
23A	S13X	3
23B	S13X-	3
24A	D13X	3
24B	S12X	3
25A	S12X-	3
25B	D12X	3
26A	S11X	3
26B	S11X-	3
27A	D11X	3
27B	S10X	3
28A	S10X-	3
28B	D10X	3
29A	S09X	3
29B	S09X-	3
30A	D09X	3
30B	S08X	3
31A	S08X-	3
31B	D08X	3
32A	S17X	
32B	S17X-	
33A	D17X	
33B	S16X	
34A	S16X-	
34B	D16X	
35A	S07X	3
35B	S07X-	3
36A	D07X	3
36B	S06X	3
37A	S06X-	3
37B	D06X	3
38A	S05X	3
38B	S05X-	3

CONNECTOR J1

PIN	FUNCTION	SHEET
39A	D05X	3
39B	S04X	3
40A	S04X-	3
40B	D04X	3
41A	S03X	3
41B	S03X-	3
42A	D03X	3
42B	S02X	3
43A	S02X-	3
43B	D02X	3
44A	S01X	
44B	S01X-	
45A	D01X	3
45B	S00X	
46A	S00X-	
46B	D00X	3
47A	G SIG	
47B	G SIG	
48A	G SIG	
48B	G SIG	
49A	G SIG	
49B	G SIG	
50A	YS1X-X	
50B	YS0X-X	
51A	YS3X-X	
51B	YS2X-X	
52A	YS5X-X	
52B	YS4X-X	
53A	YS7X-X	
53B	YS6X-X	
54A		
54B		
55A		
55B		
56A		
56B		
57A	CA6X-X	
57B	CA6X-X	

CONNECTOR J1

PIN	FUNCTION	SHEET
58A	CC6X-X	
58B	CC6X-X	
59A	CA4X-X	
59B	CA4X-X	
60A	CC4X-X	
60B	CC4X-X	
61A	CA2X-X	
61B	CA2X-X	
62A	CC2X-X	
62B	CC2X-X	
63A	CA0X-X	
63B	CA0X-X	
64A	CC0X-X	
64B	CC0X-X	
65A	G SIG	
65B	G SIG	

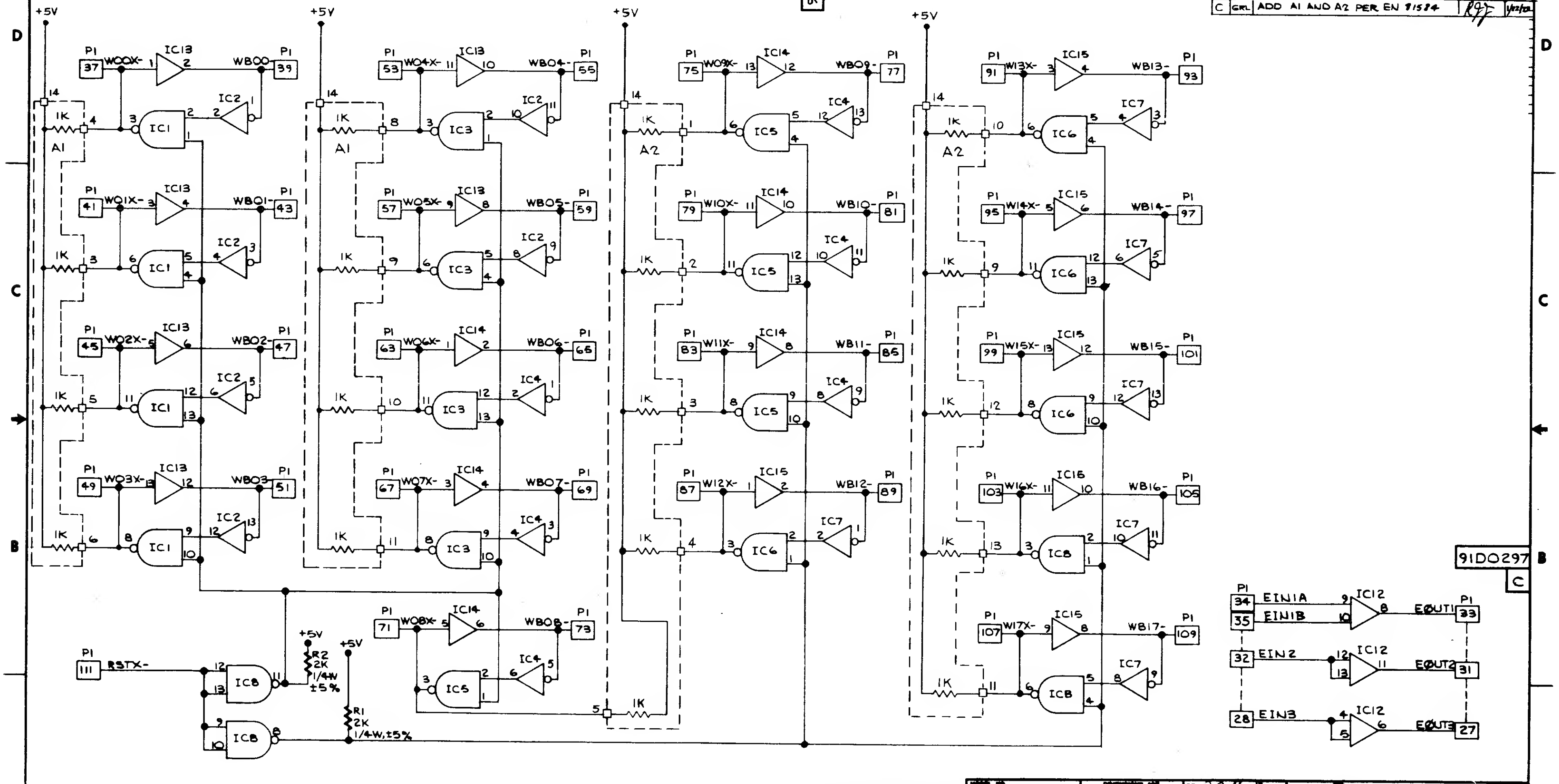
91D0285 E

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0285	E
SCALE NONE		SHEET 4 OF 4	

91D0297 C

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
A		PRODUCTION RELEASE PER EN 5428		
B	D.B.	ADDED EINIB TO P1(4 P135 CORRECTED SIGNALS ON P1 34 ON SHT 2 PER EN 80337	D.B.	1-18-72
C	GRL	ADD A1 AND A2 PER EN 81584	RGJ	1/12/82



91D0297 C

REFERENCE DWGS	
44D0521	ASSEMBLY
44P0521	PARTS LIST
40D0469	BD DETAIL

REFERENCE DESIGNATIONS	
USED	NOT USED
R1,2	
C1 THRU C6	
IC1 THRU IC15	
P1	
A2	

1. IC POWER & GROUND DISTRIBUTION
+5V - PIN 14 FOR ALL IC'S
GRD - PIN 7 FOR ALL IC'S

NOTE: UNLESS OTHERWISE SPECIFIED

MODEL NO. 620L
NEXT ASSY 44D0521
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR		5/10/71
CHK		4-4-71
DSGN	—	—
ENGR	J. Chen	6/4/71
APPD	J. Chen	6/4/71
APPD	T. Manig	6/4/71

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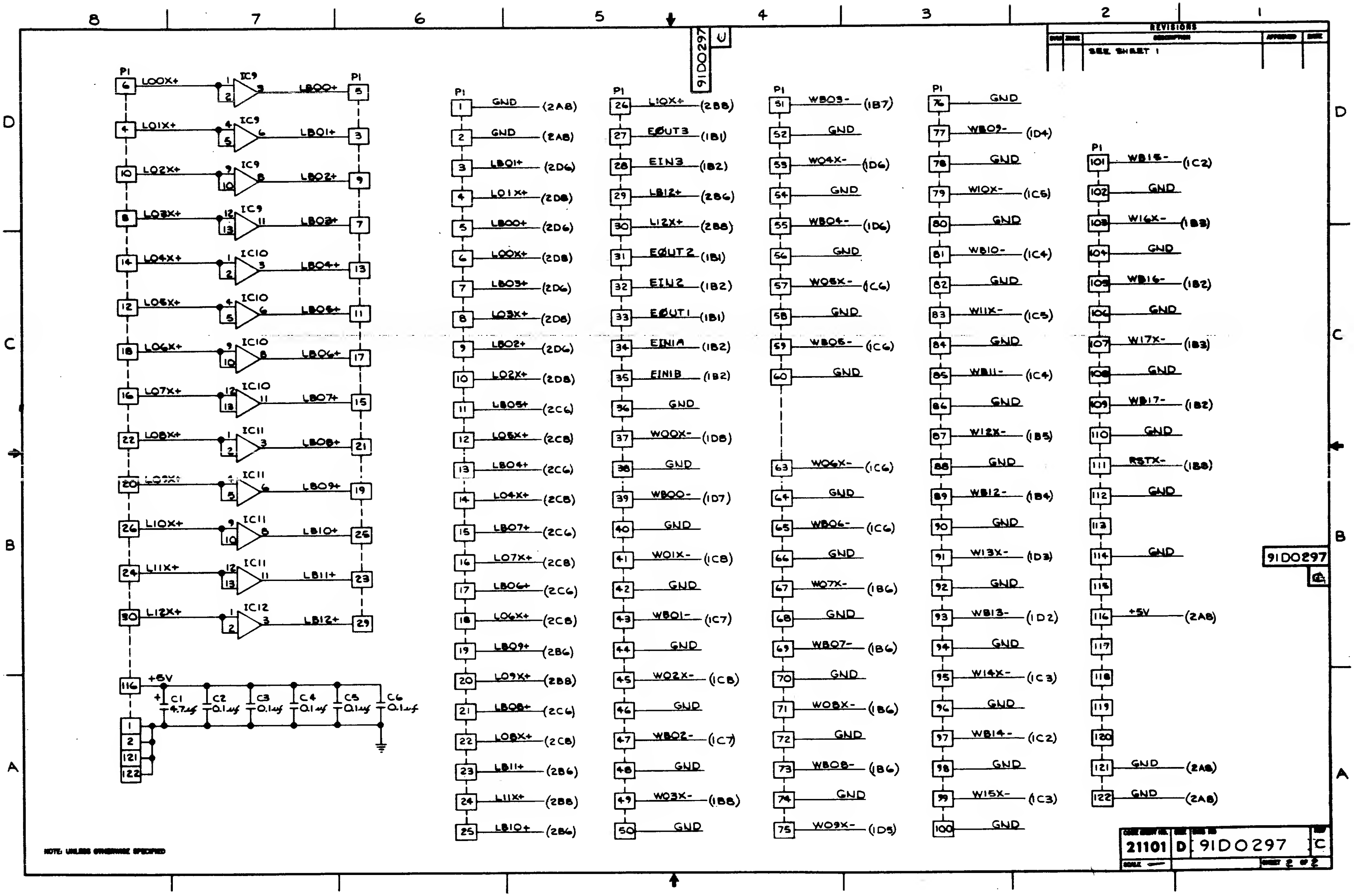
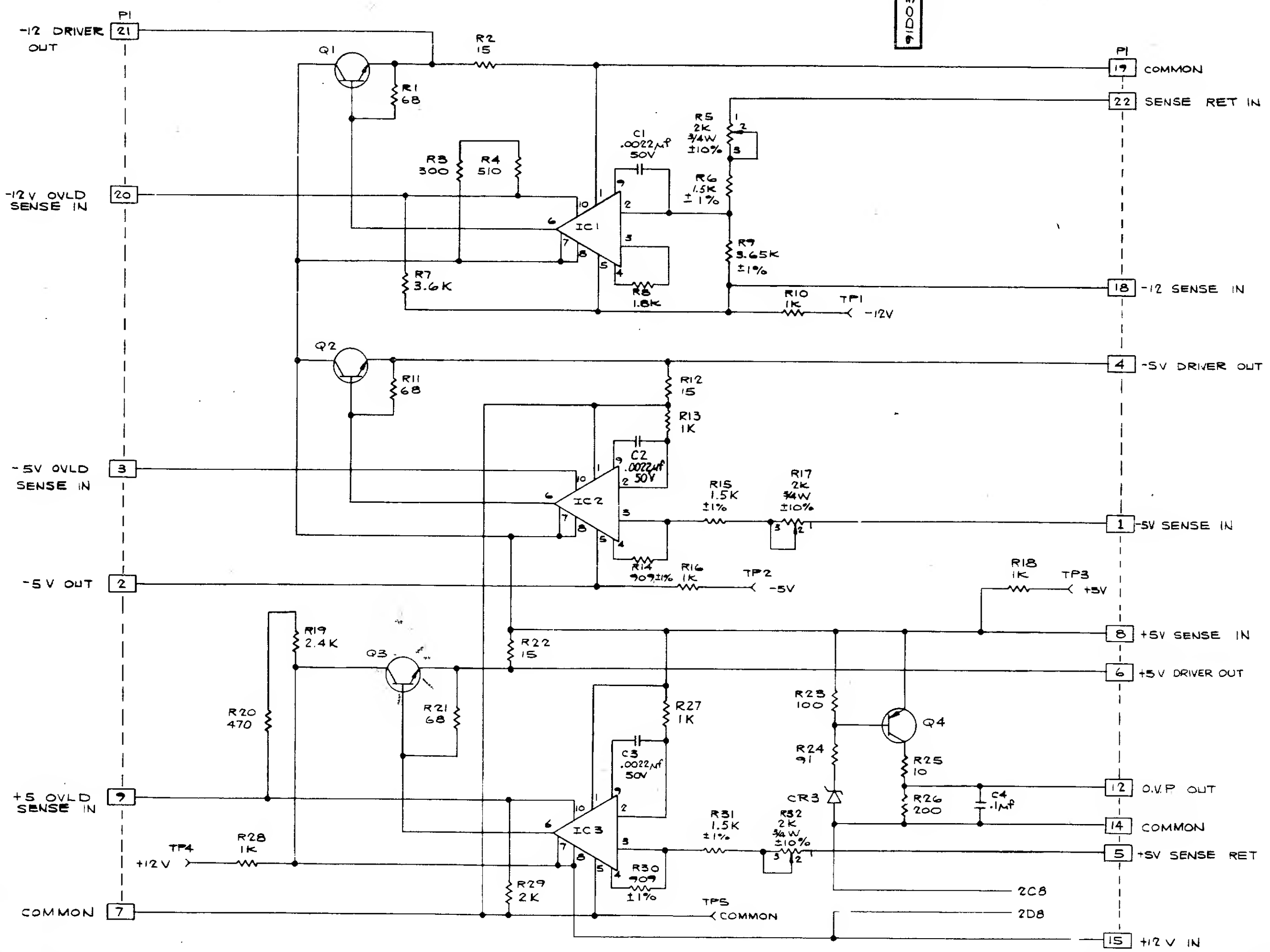
TITLE
LOGIC DIAG-
MEMORY BUFFER

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0297	C

SCALE —— SHEET 1 OF 2


8
7
6
5
4
3
2
1
D
C
B
A
91D0297
C
REVISIONS
DESCRIPTION
SEE SHEET 1
P1
6 LOOX+ 1 2 IC9 3 LB00+ 5
4 LO1X+ 4 5 IC9 6 LB01+ 3
10 LO2X+ 9 10 IC9 8 LB02+ 9
8 LO3X+ 12 13 IC9 11 LB03+ 7
14 LO4X+ 1 2 IC10 3 LB04+ 13
12 LO5X+ 4 5 IC10 6 LB05+ 11
18 LO6X+ 9 10 IC10 8 LB06+ 17
16 LO7X+ 12 13 IC10 11 LB07+ 15
22 LO8X+ 1 2 IC11 3 LB08+ 21
20 LO9X+ 4 5 IC11 6 LB09+ 19
26 L10X+ 9 10 IC11 8 LB10+ 25
24 L11X+ 12 13 IC11 11 LB11+ 23
30 L12X+ 1 2 IC12 3 LB12+ 29
116 +5V
C1 4.7uf
C2 0.1uf
C3 0.1uf
C4 0.1uf
C5 0.1uf
C6 0.1uf
1
2
121
122
1 GND (2AB)
2 GND (2AB)
3 LB01+ (2D6)
4 LO1X+ (2D8)
5 LB00+ (2D6)
6 LOOX+ (2D8)
7 LB03+ (2D6)
8 LO3X+ (2D8)
9 LB02+ (2D6)
10 LO2X+ (2D8)
11 LB05+ (2C6)
12 LO5X+ (2C8)
13 LB04+ (2C6)
14 LO4X+ (2C8)
15 LB07+ (2C6)
16 LO7X+ (2C8)
17 LB06+ (2C6)
18 LO6X+ (2C8)
19 LB09+ (2B6)
20 LO9X+ (2B8)
21 LB08+ (2C6)
22 LO8X+ (2C8)
23 LB11+ (2B6)
24 L11X+ (2B8)
25 LB10+ (2B6)
26 L10X+ (2B8)
27 EØUT3 (1B1)
28 EIN3 (1B2)
29 LB12+ (2B6)
30 L12X+ (2B8)
31 EØUT2 (1B1)
32 EIN2 (1B2)
33 EØUT1 (1B1)
34 EIN1A (1B2)
35 EIN1B (1B2)
36 GND
37 W00X- (1D8)
38 GND
39 WB00- (1D7)
40 GND
41 W01X- (1C8)
42 GND
43 WB01- (1C7)
44 GND
45 W02X- (1C8)
46 GND
47 WB02- (1C7)
48 GND
49 W03X- (1B8)
50 GND
51 WB03- (1B7)
52 GND
53 W04X- (1D6)
54 GND
55 WB04- (1D6)
56 GND
57 W05X- (1C6)
58 GND
59 WB05- (1C6)
60 GND
63 W06X- (1C6)
64 GND
65 WB06- (1C6)
66 GND
67 W07X- (1B6)
68 GND
69 WB07- (1B6)
70 GND
71 W08X- (1B6)
72 GND
73 WB08- (1B6)
74 GND
75 W09X- (1D5)
76 GND
77 WB09- (1D4)
78 GND
79 W10X- (1C5)
80 GND
81 WB10- (1C4)
82 GND
83 W11X- (1C5)
84 GND
85 WB11- (1C4)
86 GND
87 W12X- (1B5)
88 GND
89 WB12- (1B4)
90 GND
91 W13X- (1D3)
92 GND
93 WB13- (1D2)
94 GND
95 W14X- (1C3)
96 GND
97 WB14- (1C2)
98 GND
99 W15X- (1C3)
100 GND
101 WB15- (1C2)
102 GND
103 W16X- (1B3)
104 GND
105 WB16- (1B2)
106 GND
107 W17X- (1B3)
108 GND
109 WB17- (1B2)
110 GND
111 RSTX- (1B8)
112 GND
113
114 GND
115
116 +5V (2AB)
117
118
119
120
121 GND (2AB)
122 GND (2AB)
91D0297
C
NOTE: UNLESS OTHERWISE SPECIFIED
21101
D
91D0297
C
SCALE
SHEET 2 OF 2

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE		
A		PRODUCTION RELEASE PER EN 5479		
B	KA	DELETED CR1 & 2, R3 WAS 200Ω, R7 WAS 1.5K, R19 WAS 390Ω, R20 WAS 820Ω, R29 WAS 1.6K, R35 WAS 820Ω, R36 WAS 200Ω, R38 WAS 4.3K PER EN 5580	B.F.	2-14-71
C	KA	DELETED CR1 & 2 FROM F/D AND ADDED CR1 & 2 TO "NOT USED IN REF DES EN 30025	B.R.	2-14-71
D	WSB	R6 AND 41 WAS 2K EN 80072		9/4/74



REFERENCE DESIGNATIONS	
LAST USED	NOT USED
C6	
CR6	CR1, CR2
IC4	
R42	
TP5	
Q5	

REFERENCE DRAWINGS

44D0528 ___ ASSEMBLY
44P0528 ___ PARTS LIST
97D0580 ___ ARTWORK
97D0608 ___ SOLDER MASK
97C0609 ___ SILKSCREEN
40D0475 ___ BOARD DETAIL

1. ALL RESISTORS ARE IN OHMS, 1/4W, ±5%

NOTE: UNLESS OTHERWISE SPECIFIED

MODEL NO.	620/L
NEXT ASSY	44D0528
MATERIAL	
FINISH	

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
X ±.1
XX ±.03
XXX ±.010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	W. R. Luther	3-30-71
CHK	W. Debach	4/6/71
DSGN	W. R. Luther	3-30-71
ENGR	R. Calhoun	4/13/71
APPD	L. Murray	4-13-71
APPD		

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TITLE
LOGIC - REGULATOR
BOARD

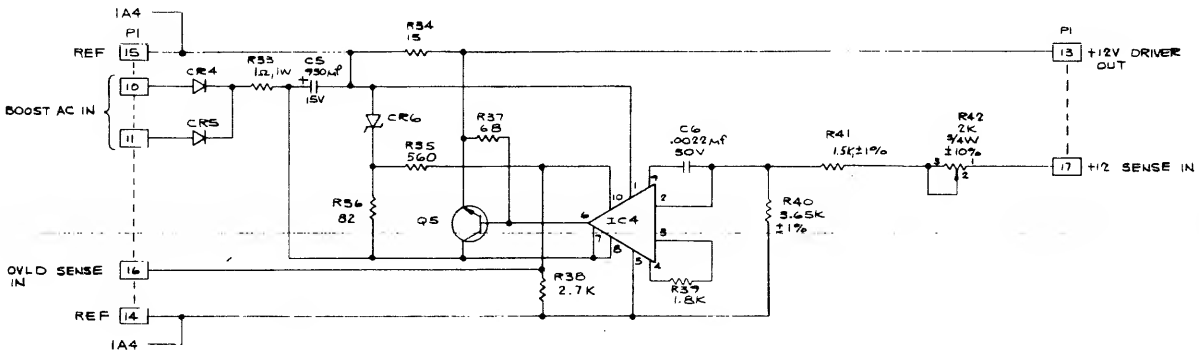
CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0318	D

SCALE —— SHEET 1 OF 2

91D0318 D

REVISIONS

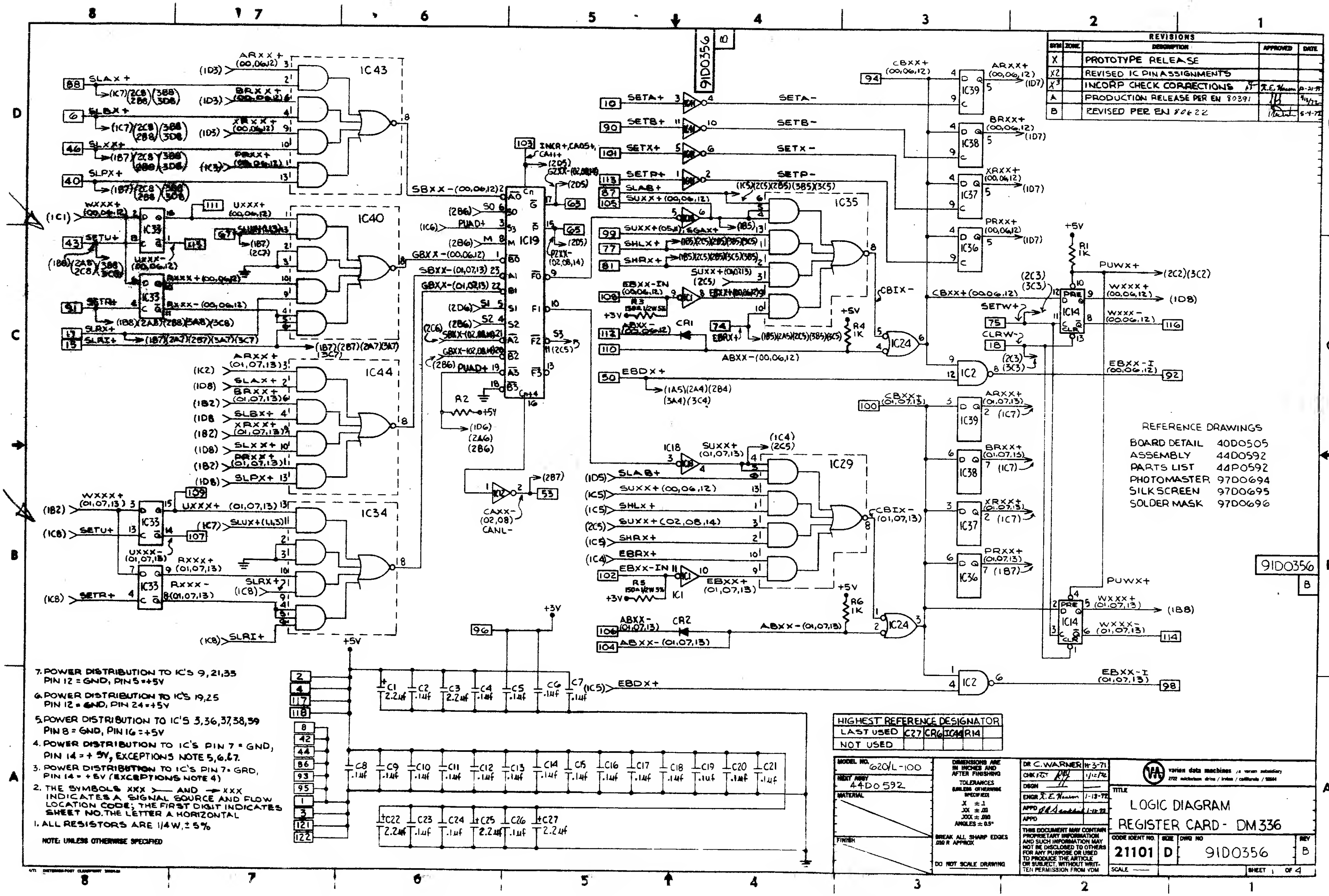
SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		



91D0318 D

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0318	D
SCALE —		SHEET 2 OF 2	



SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE		
X2		REVISED IC PIN ASSIGNMENTS		
X3		INCORP CHECK CORRECTIONS	R.E. Hanson	12-21-71
A		PRODUCTION RELEASE PER EN 80391		4/13/72
B		REVISED PER EN 80622		5-4-72

REFERENCE DRAWINGS

BOARD DETAIL	40D0505
ASSEMBLY	44D0592
PARTS LIST	44P0592
PHOTOMASTER	97D0694
SILKSCREEN	97D0695
SOLDER MASK	97D0696

7. POWER DISTRIBUTION TO IC'S 9, 21, 33 PIN 12 = GND, PIN 5 = +5V
6. POWER DISTRIBUTION TO IC'S 19, 25 PIN 12 = GND, PIN 24 = +5V
5. POWER DISTRIBUTION TO IC'S 3, 36, 37, 38, 39 PIN 8 = GND, PIN 16 = +5V
4. POWER DISTRIBUTION TO IC'S PIN 7 = GND, PIN 14 = +5V, EXCEPTIONS NOTE 5, 6, & 7.
3. POWER DISTRIBUTION TO IC'S PIN 7 = GRD, PIN 14 = +5V (EXCEPTIONS NOTE 4)
2. THE SYMBOLS XXX >— AND → XXX INDICATES A SIGNAL SOURCE AND FLOW LOCATION CODE; THE FIRST DIGIT INDICATES SHEET NO. THE LETTER A HORIZONTAL
1. ALL RESISTORS ARE 1/4W, ± 5%

NOTE: UNLESS OTHERWISE SPECIFIED

HIGHEST REFERENCE DESIGNATOR					
LAST USED	C27	CR6	IC44	R14	
NOT USED					

MODEL NO. 620/L-100
NEXT ASSY 44D0592
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	C. WARNER	11-3-71
CHK		1/12/72
DSGN		
ENGR	R. E. Hanson	1-13-72
APPD		1-13-72
APPD		

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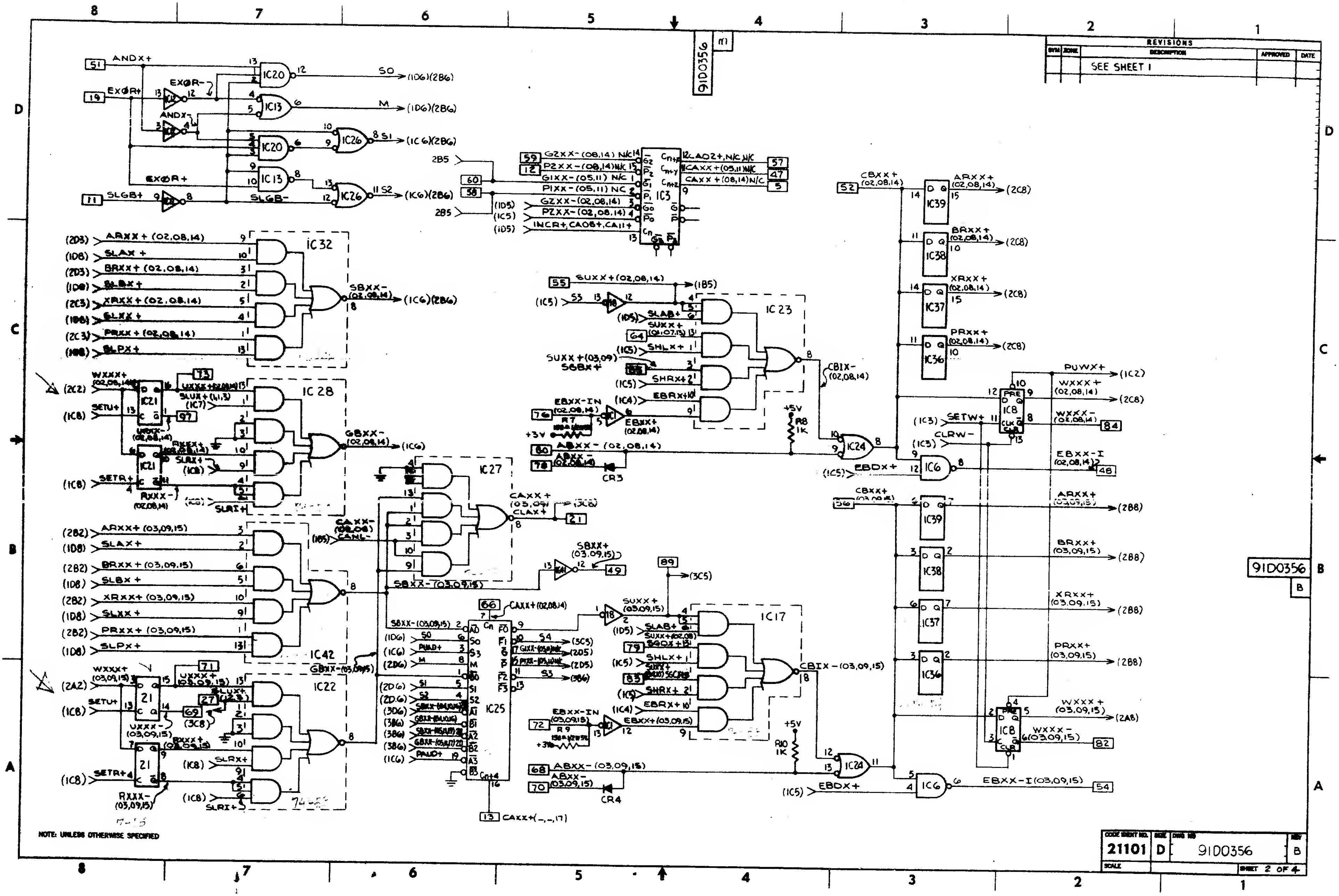
TITLE LOGIC DIAGRAM
REGISTER CARD - DM336

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0356	B

SCALE —— SHEET 1 OF 4

4/71 DIETZGEN-POST CLEARPRINT 1000H-20



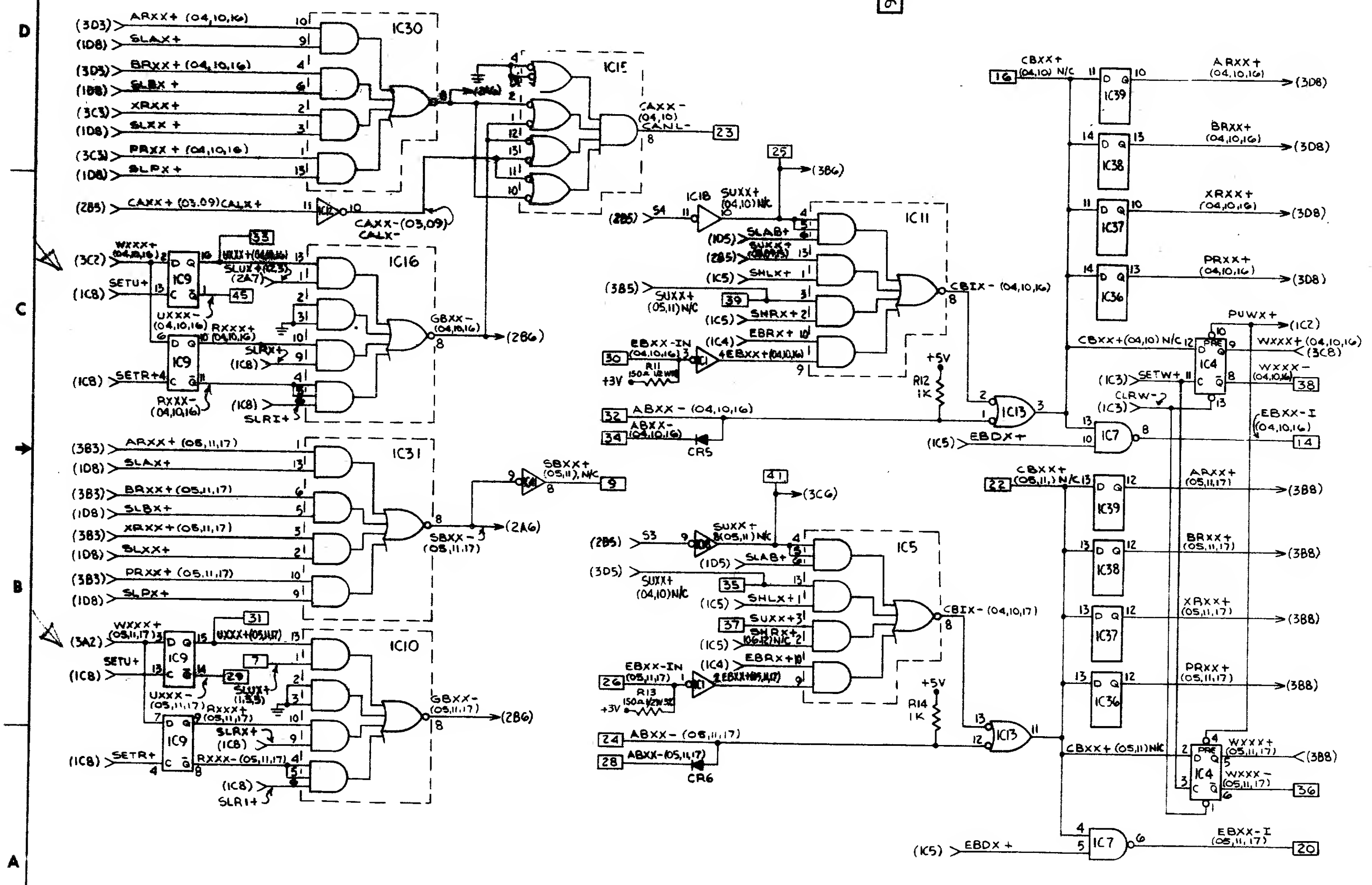
NOTE: UNLESS OTHERWISE SPECIFIED

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0356	B
SCALE		SHEET 2 OF 4	

91D0356 B

SYM	ZONE	REVISIONS DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		



91D0356 B

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0356	B
SCALE		SHEET 3 OF 4	

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		

91D0356 B

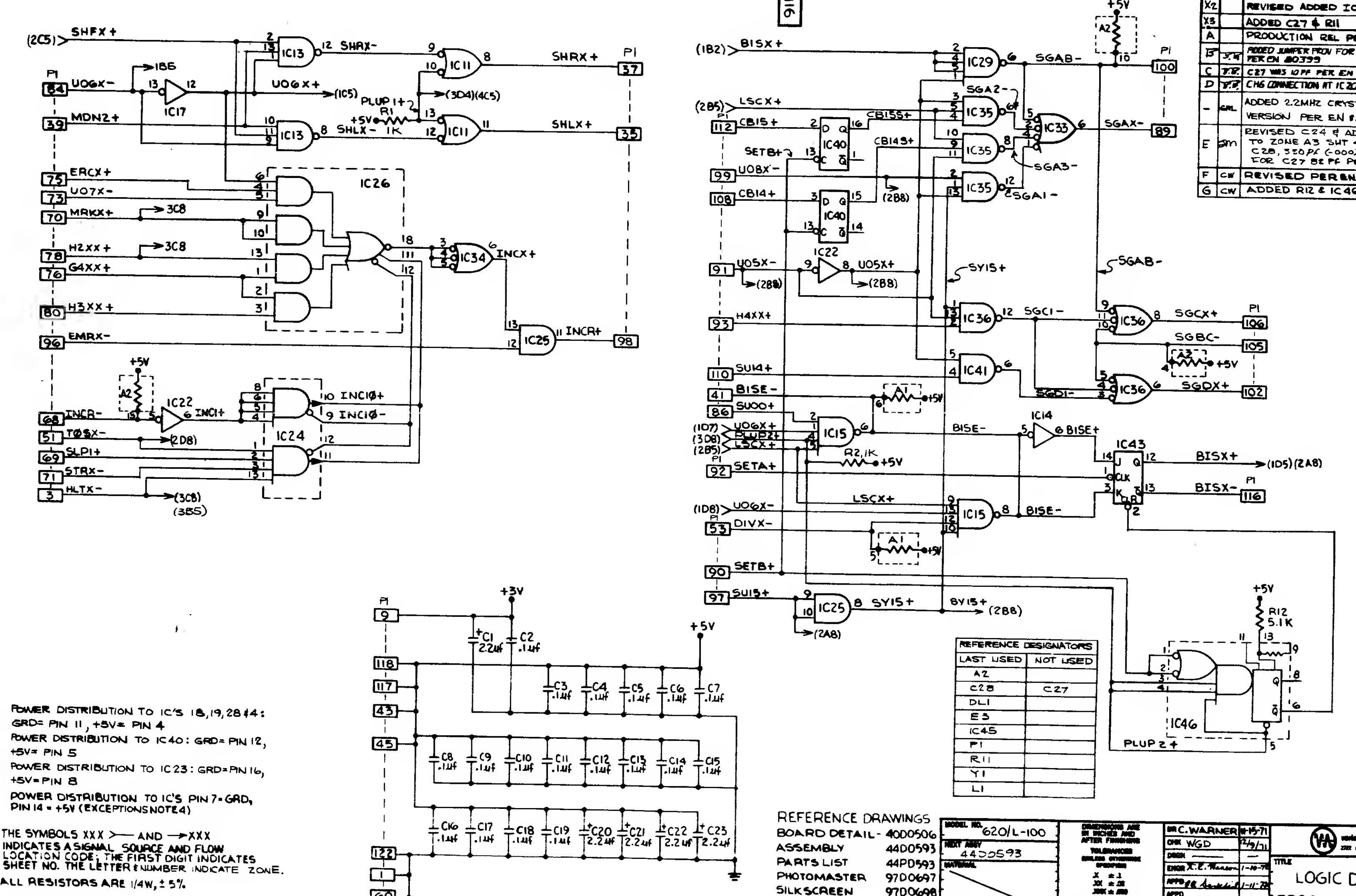
From	Signal	Pin	To
	GRD	1	1A7
	+5V	2	1B7
	GRD	3	1A7
	+5V	4	1A7
	CAXX+(08,14) N/C	5	2D4
	SLBX+	6	1D8
	SLUX+ (1,2,3)	7	3B7
	GRD	8	
3B6	SBXX+ (05,11) N/C	9	
	SETA+	10	1D5
	SLGB+	11	2D8
	P2XX-(08,14,) N/C	12	2D5
3A5	CAXX+(, 17)	13	
3C2	EBXX-I (04,10,16)	14	
	SLRI+	15	1C8
	CBXX+ (04,10) N/C	16	3D4
	SLRX+	17	1C8
	CLRW-	18	1C2
	EXØR+	19	2D8
	EBXX-I (05,11,17)	20	3A2
2B5	CAXX+(03,09)CLAX+	21	
	CBXX+ (05,11) N/C	22	3B4
3D5	CAXX-(04,10),CANL-	23	
	ABXX- (05,11,17)	24	3A6
	SUXX+ (04,10) N/C	25	3D5
	EBXX-IN (05,11,17)	26	3B6
	SLUX+(1,2,3)	27	2A7
	ABXX-(05,11,17)	28	3A6
3B7	UXXX- (05,11,17)	29	
	EBXX-IN (04,10,16)	30	3C6
3B7	UXXX+ (05,11,17)	31	
	ABXX- (04,10,16)	32	3C6
3C7	UXXX [illegible] 04,10,16)	33	
	ABXX-(04,10,16)	34	3C6
	SUXX+ (04,10) N/C	35	3B5
3A2	WXXX-(05,11,17)	36	
	SUXX+	37	3B5
3C2	WXXX-(04,10,16)	38	
	SUXX+ (05,11,) N/C	39	3C5
	SLPX+	40	1D8
	SUXX+ (05,11) N/C	41	3B5
	GRD	42	
	SETU+	43	1C8
	GRD	44	
3C7	UXXX-(04,10,16)	45	
	SLXX+	46	1D8
	CAXX+(05,11,) N/C	47	2D4
2B2	EBXX-I (02,08,14)	48	
2A6	SBXX+ (03,09,15)	49	
	EBDX+	50	1C5
	ANDX+	51	2D9
	CBXX+ (02,08,14)	52	2D3
1C5	CAXX-,(02,08) CANL-	53	
2A2	EBXX-I (03,09,15)	54	
	SUXX+(02,08,14)	55	2C5
	CBXX+ (03,09,15)	56	23B
	CA02+ N/C, N/C	57	2B3
	P1XX- (05,11) NC	58	2D6
	G2XX- (08,14) N/C	59	2D5
	G1XX- (05,11) NC	60	2D6
		61	
		62	
	G2XX- (02,08,14)	63	(1D5)
	SUXX+	64	(1B4)
	P2XX-(02,08,14)	65	(1C5)
	CAXX+ (02,08,14)	66	(2B6)
	SLUX+(1,1,3)	67	1D7
	ABXX-(03,09,15)	68	2A5
2A7	UXXX-(03,09,15)	69	
	ABXX-(03,09,15)	70	2A5
2A7	UXXX+ (03,09,15)	71	
7.	EBXX-IN (03,09,15)	72	2A5
2C7	UXXX+(02,08,14)	73	
	EBRX+	74	1C4
	SETW+	75	1C2
	EBXX-IN (02,08,14)	76	2C5
	SHLX+	77	1C5
	ABXX-(02,08,14)	78	2C5
	SUXX+ (02,08) SGDX+	79	
	ABXX-(02,08,14)	80	2B5
	SHRX+	81	1C5
2A2	WXXX- (03,09,15)	82	
	SUXX+ (04,10) SGCX+	83	2A5
2C2	WXXX- (02,08,14)	84	
	SUXX+ (03,09) SGBX+	85	2C5
	GRD	86	
	SLAB+	87	1D5
	SLAX+	88	1D8
	SUXX+ (03,09,15)	89	2C5
	SETB+	90	1D5
	SETR+	91	1C8
1C1	EBXX-I (00,06,12)	92	
	GRD	93	
	CBXX+ (00,06,12)	94	1D3
	GRD	95	
	+3V	96	1B6
2C7	UXXX- (02,08,14)	97	
1A1	EBXX-I (01,07,13)	98	
	SUXX+ (05,11) SGAX+	99	1C5
	CBXX+(01,07,13)	100	1C3
	SETX+	101	1D5
	EBXX-IN	102	1B5
	INCR+,CA05+,CA11+	103	1D5
	ABXX-(01,07,13)	104	1B5
	SUXX+ (00,06,12)	105	1D5
	ABXX-(01,07,13)	106	1B5
1B7	UXXX- (01,07,13)	107	
	EBXX-IN (00,06,12)	108	1C5
1B7	UXXX+ (01,07,13)	109	
	ABXX-(00,06,12)	110	1C5
1D7	UXXX+ (00,06,12)	111	
	ABXX- (00,06,12)	112	1C5
	SETP+	113	1D5
1B1	WXXX-(01,07,13)	114	
1D7	UXXX-(00,06,12)	115	
1C1	WXXX-(00,06,12)	116	
	+5V	117	1A7
	+5V	118	1A7
		119	
		120	
	GRD	121	1A7
	GRD	122	1A7

91D0356 B

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0356	B
SCALE		SHEET 4 OF 4	

91D0357 G



REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
X		PROTOTYPE RELEASE		
X2		REVISED ADDED IC46		
X3		ADDED C27 & R11		
A		PRODUCTION REL PER EN 80380		
B		ADDED JUMPER PROV FOR ABCT TEST PER EN 80399	B.B	6-17-72
C		C27 WAS 10 PF PER EN 80611	B.B	6-17-72
D		CHG CONNECTION AT IC20 PER EN # 80696	B.B.	6-17-72
-		ADDED 2.2MHZ CRYSTAL FOR -001 VERSION PER EN 81072		
E		REVISED C24 & ADDED L1, 2.7uh TO ZONE A3 SHT 4.0 & REPLACED C28, 330 PF (-000), 1800 PF (-001) FOR C27 82 PF PER EN 81175		
F	CW	REVISED PER EN 81444		
G	CW	ADDED R12 & IC46 PER EN 81523		

REFERENCE DESIGNATORS	
LAST USED	NOT USED
A2	
C28	C27
DL1	
E3	
IC45	
P1	
R11	
Y1	
L1	

4. POWER DISTRIBUTION TO IC'S 18, 19, 28 & 4: GRD= PIN 11, +5V= PIN 4
POWER DISTRIBUTION TO IC40: GRD= PIN 12, +5V= PIN 5
POWER DISTRIBUTION TO IC23: GRD= PIN 16, +5V= PIN 8

3. POWER DISTRIBUTION TO IC'S PIN 7 = GRD, PIN 14 = +5V (EXCEPTIONS NOTE 4)

2. THE SYMBOLS XXX >— AND —> XXX INDICATES A SIGNAL SOURCE AND FLOW LOCATION CODE; THE FIRST DIGIT INDICATES SHEET NO. THE LETTER & NUMBER INDICATE ZONE.

1. ALL RESISTORS ARE 1/4W, ± 5%.

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

BOARD DETAIL -	40D0506
ASSEMBLY	44D0593
PARTS LIST	44PD593
PHOTOMASTER	97D0697
SILKSCREEN	97D0698
SOLDERMASK	97D0699

MODEL NO.	620/L-100
NEXT ASSY	44D0593
MATERIAL	
FINISH	

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES UNLESS OTHERWISE SPECIFIED
.X ± .1
.XX ± .02
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .010 R APPROX
DO NOT SCALE DRAWING

DR	C. WARNER	11-15-71
CHK	WGD	12/9/71
DSGN	—	—
ENGR	K.E. Hanson	1-10-72
APPD		1-11-72
APPD		

THIS DOCUMENT MAY CONTAIN PROPRIETARY INFORMATION AND SUCH INFORMATION MAY NOT BE DISCLOSED TO OTHERS FOR ANY PURPOSE OR USED TO PRODUCE THE ARTICLE OR SUBJECT, WITHOUT WRITTEN PERMISSION FROM VDM

varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE
LOGIC DIAGRAM - DM337
PROCESSOR CONTROL NO.4

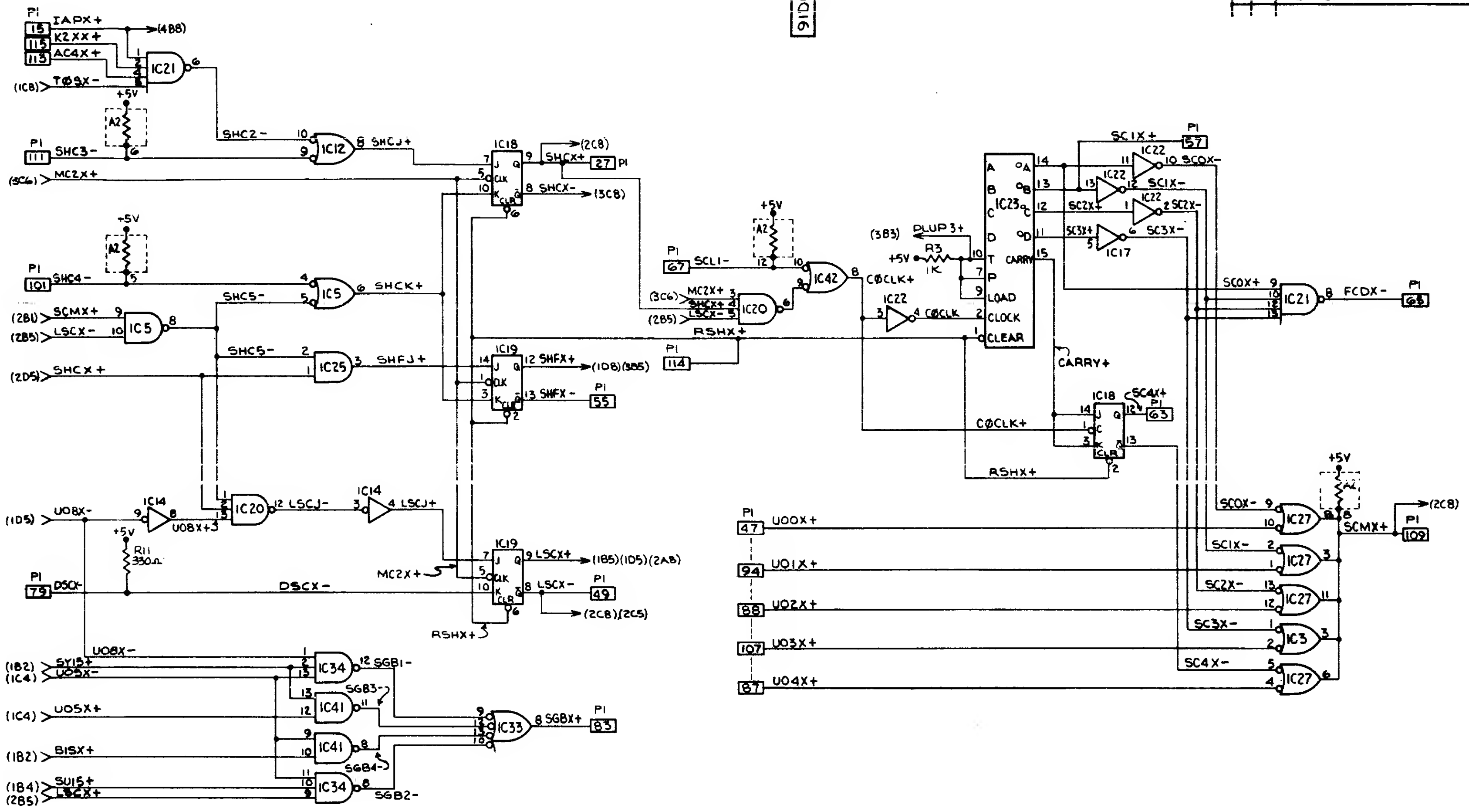
CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0357	G

SCALE —
SHEET 1.0 OF 5.0

91D0357 G

SYM	ZONE	DESCRIPTION	APPROVED	DATE
		SEE SHEET 1		

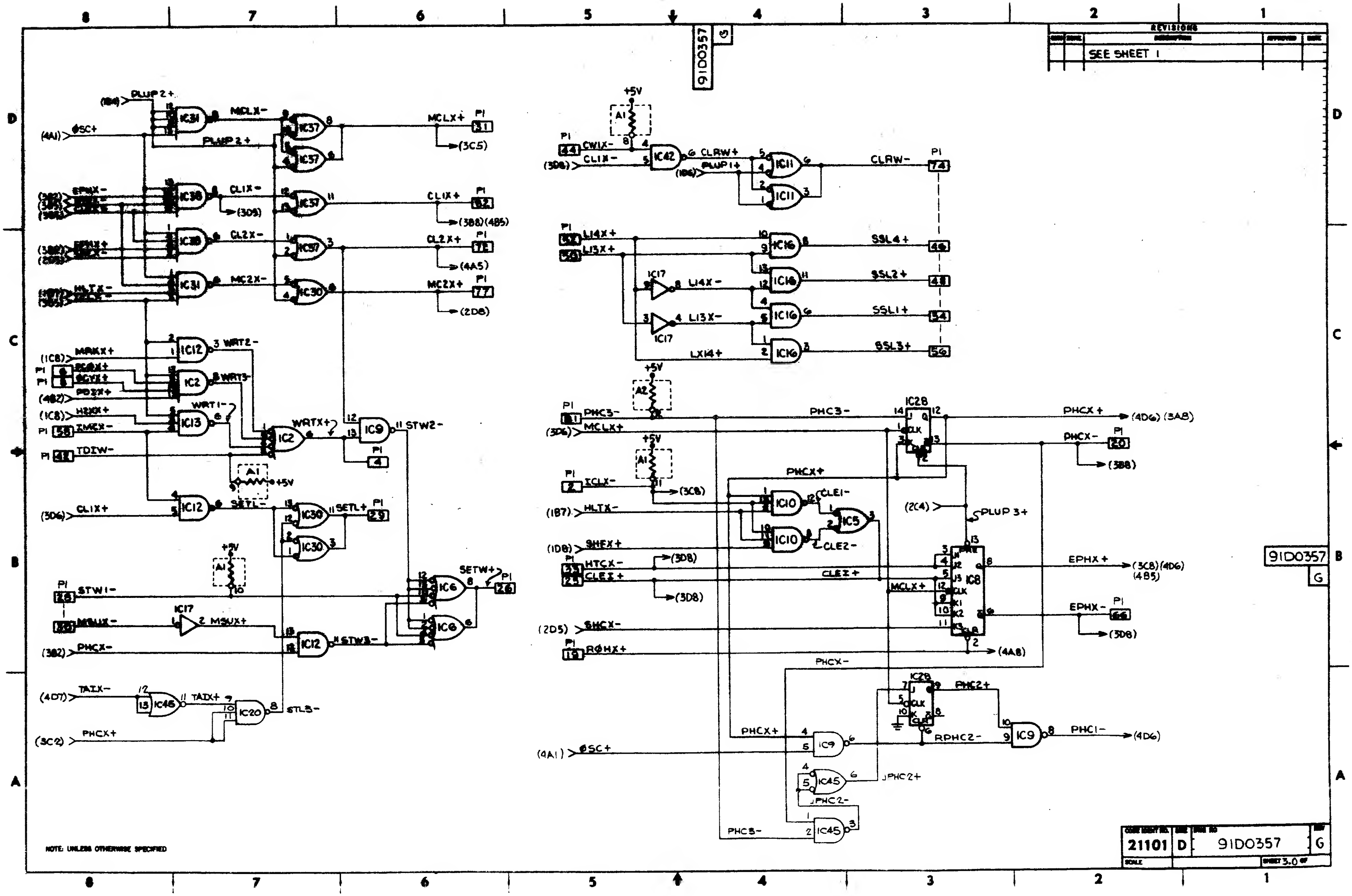
91D0357 G



NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0357	G
SCALE		SHEET 2.0 OF	

91D0357 G



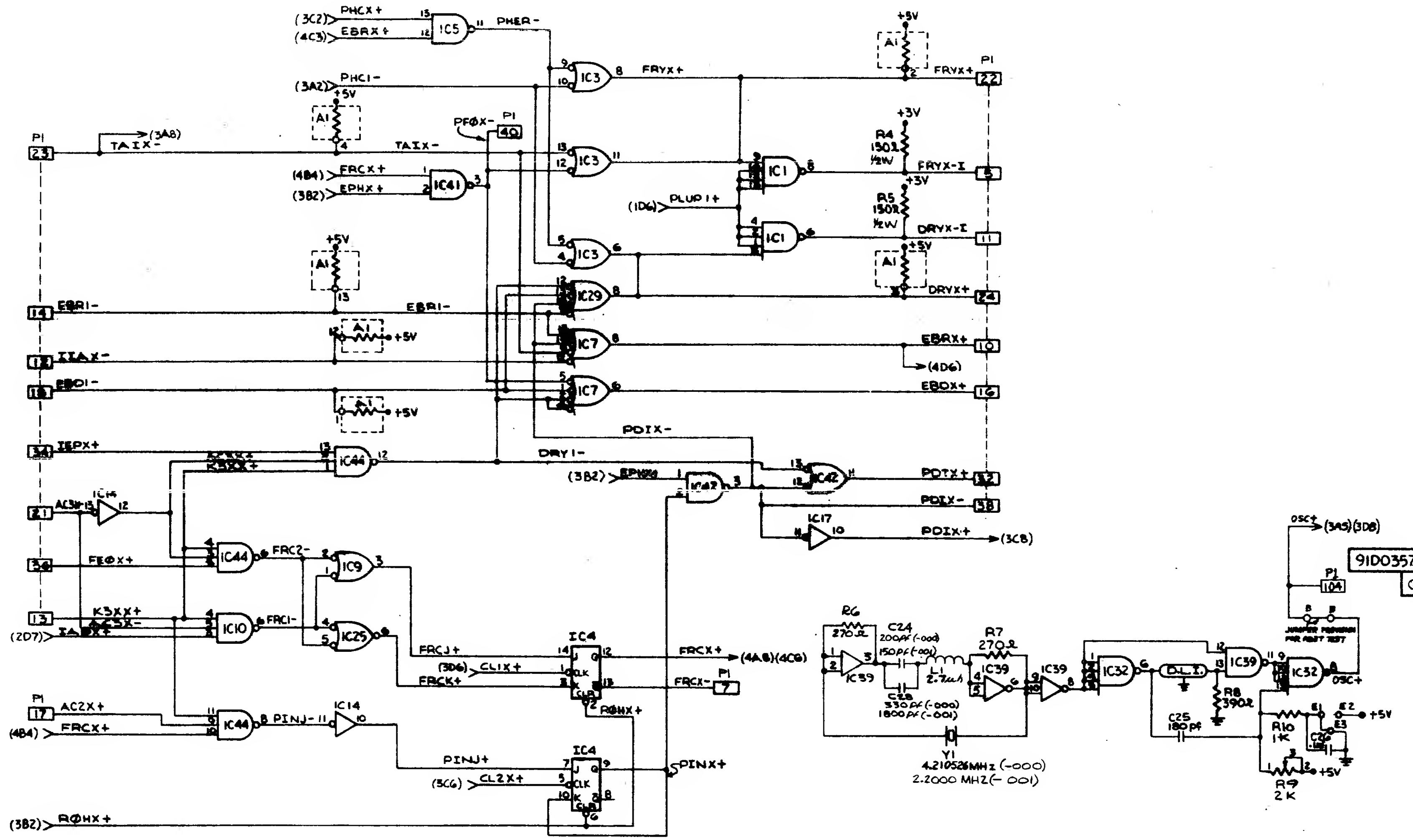
NOTE: UNLESS OTHERWISE SPECIFIED

21101 D 91D0357 G

SHEET 3.0

REVISIONS				
		SEE SHEET 1		

91D0357 G



91D0357 G

NOTE: UNLESS OTHERWISE SPECIFIED

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	91D0357	G
SCALE		SHEET 4.0	

91D0357 G

REVISIONS

SEE SHEET 1

	1	GRD	1A6
	2	ICLX-	3B5
	3	HLTX-	1B8
3B6	4	WRTX+	
4C3	5	FRYX-I	
	6	FC0K+	3C8
4B4	7	FRCX-	
	8	0CYE+	3C8
	9	+5V	1B6
4C3	10	EBRX+	
4C3	11	DRYX-I	
	12	IIAX-	4C8
	13	K3XX+	4B8
	14	EBRI-	4C8
	15	IAPX+	2D8
4C3	16	EBDX+	
	17	AC2X+	4A8
	18	EBDI-	4C8
	19	R0HX+	3A5
3B2	20	PHCX-	
	21	AC3X-	4B8
4D3	22	FRYX+	
	23	TAIX-	4D8
4C3	24	DRYX+	
	25	CLEI+	3B5
3B6	26	SETW+	
2D5	27	SHCX+	
	28	STWI-	3B8
3B6	29	SETL+	
	30	MSUX-	3B8
3D6	31	MCLX+	
4B3	32	PDTX+	
	33	HTCX-	3B5
	34	IEPX+	4B8
1D5	35	SHLX+	
	36	FE0X+	4B8
1D5	37	SHRX+	
4B3	38	PDIX-	
	39	MDN2+	1D8
4D5	40	PFOX-	
	41	BISE-	1C5
	42	TDIW-	3B8
	43	+5V	1B6
	44	CWIX-	3D5
	45	+5V	1A6
3C3	46	SSL4+	
	47	U00X+	2B5
3C3	48	SSL2+	
2B5	49	LSCX-	
	50	LI3X+	3C5
	51	T0GX-	1C8
	52	LI4X+	3C5
	53	DIYX-	1B5
3C3	54	SSL1+	
2C5	55	SHFX-	
3C3	56	SSL3+	
2D2	57	SCIX+	
	58	IMCX-	3C8
	59		
	60	GRD	1A6
	61		
	62		
2C3	63	SC4X+	
	64		
2C1	65	FCDX-	
3B2	66	EPHX-	
	67	SCLI-	2C5
	68	INCR-	1C8
	69	SLPI+	1B8
	70	MRKX+	1C8
	71	STRX-	1B8
3C6	72	CL2X+	
	73	U07X-	1C8
3D3	74	CLRW-	
	75	ERCX+	1D8
	76	G4XX+	1C8
3C6	77	MC2X+	
	78	H2XX+	1C8
	79	DSCX-	2B8
	80	H3XX+	1C8
	81	PHC3-	3C5
3D6	82	CLIX+	
2B5	83	SGBX+	
	84	U06X-	1D8
	85		
	86	SU00+	1C5
	87	U04X+	2B5
	88	U02X+	2B6
1D2	89	SGAX-	
	90	SETB+	1B5
	91	U05X-	1C5
	92	SETA+	1B5
	93	H4XX+	1C5
	94	U01X+	2B5
	95		
	96	EMRX-	1C8
	97	SUI5+	1B5
1C5	98	INCR+	
	99	U08X-	1D5
1D2	100	SGAB-	
	101	SHC4-	2C8
1C2	102	SGDX+	
	103		
4B1	104	0SC+	
1C2	105	SGBC-	
1C2	106	SGCX+	
	107	U03X+	2B5
	108	CBI4+	1D5
	109	SCMX+	2B1
	110	SUI4+	1C5
	111	SHC3-	2D8
	112	CBI5+	1D5
	113	AC4X+	2D8
	114	RGHX+	2C5
	115	K2XX+	2D8
1B2	116	BISX-	
	117	+5V	1B6
	118	+5V	1B6
	119		
	120		
	121	GRD	1A6
	122	GRD	1A6

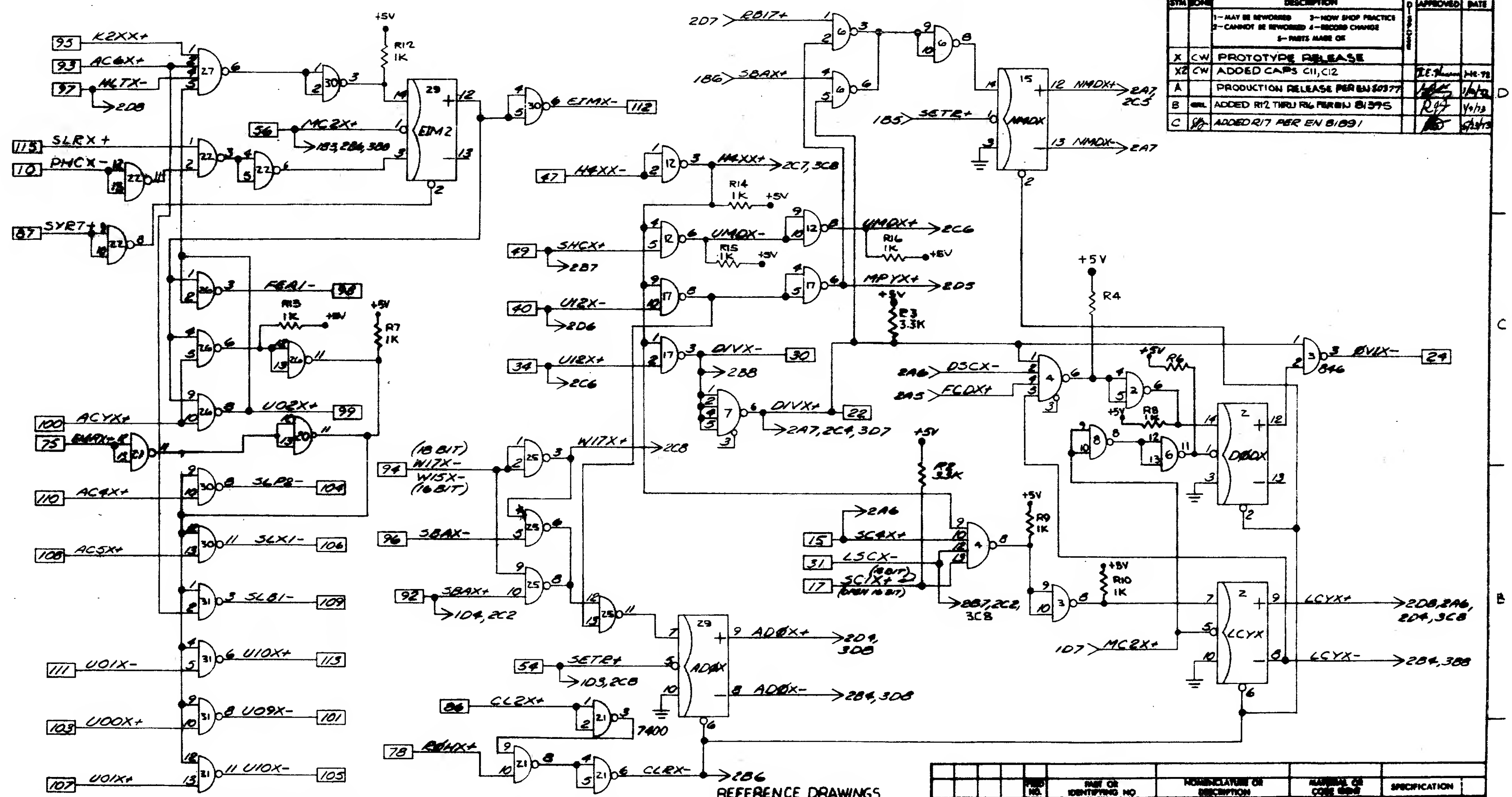
91D0357 G

NOTE: UNLESS OTHERWISE SPECIFIED

CONNECTOR PIN FUNCTIONS

21101 D 91D0357 G

SHEET 50



REVISION					
SYM	ZONE	DESCRIPTION	D	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
X	CW	PROTOTYPE RELEASE			
X2	CW	ADDED CAPS C11, C12		T.E. Hansen	1-16-72
A		PRODUCTION RELEASE PER EN 80377			
B		ADDED R12 THRU R16 PER EN 81395		R	4/4/73
C		ADDED R17 PER EN 81891			

5. PWR DISTRIBUTION TO IC'S: 2 & 29 PIN 4 = +5V, PIN 11 = GND
4. PWR DISTRIBUTION TO IC: 16 PIN 5 = +5V, PIN 12 = GND
3. PWR. DISTRIBUTION TO IC'S: PIN 14 = +5V, PIN 7 = GND
EXCEPTIONS NOTE 4 AND 5.
2. ALL RESISTORS ARE 1.0K, ¼W, ±5%
1. THE SYMBOLS XXX>— AND —>XXX INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODE. THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZONTAL ZONE AND THE SECOND DIGIT A VERTICAL ZONE.
NOTE: UNLESS OTHERWISE SPECIFIED

LAST REFERENCE DESIGNATION USED			
R17	C12	IC32	
REFERENCE DESIGNATIONS NOT USED			
R5	A1		

REFERENCE DRAWINGS

ASSEMBLY 40D0594
BOARD DETAIL 40D0507

PHOTO MASTER 97D0700

SOLDER MASK 97D0701
SILKSCREEN 97D0702

QTY REQD PER ASSY				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

APPL NO.	NEXT ASSY	USED ON
	44D0594	REF

DIMENSIONS ARE IN INCHES AND APPLY AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES
√

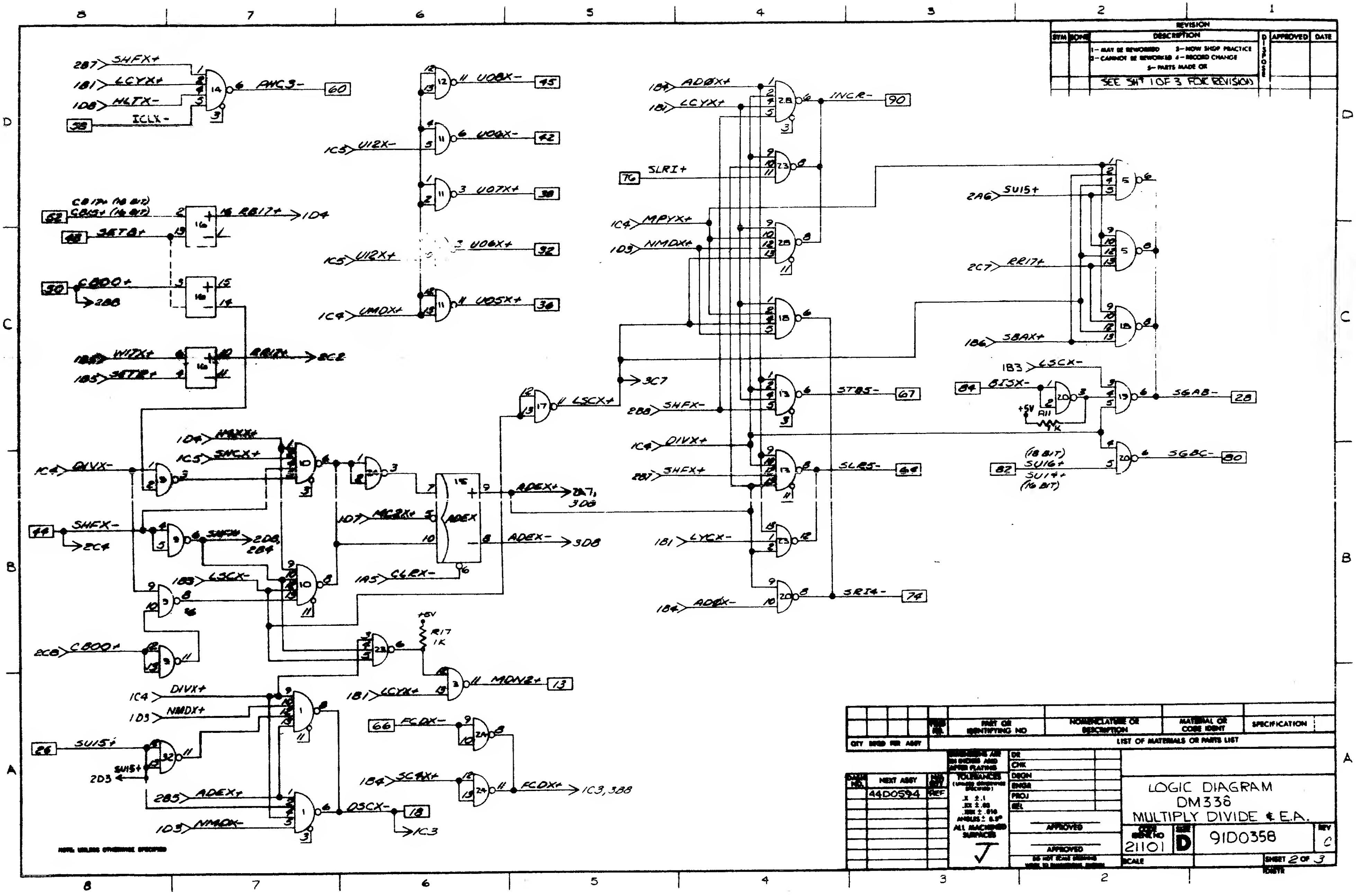
DR C. WARNER
CHK 1-12-72
DSGN —
ENGR T.E. Hansen 1-12-72
PROJ
REL
APPROVED
APPROVED
DO NOT SCALE DRAWING

varian data machines

LOGIC DIAGRAM
DM338
MULTIPLY DIVIDE & E.A.

CODE IDENT NO 21101
SIZE D
9100358
REV C
SCALE
SHEET 1 OF 3

REVISION					
SYM	ZONE	DESCRIPTION	DISPOSE	APPROVED	DATE
		1– MAY BE REWORKED 3– NOW SHOP PRACTICE 2– CANNOT BE REWORKED 4– RECORD CHANGE 5– PARTS MADE OK			
		SEE SHT 1 OF 3 FOR REVISION			



				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST				

DASH NO.	NEXT ASSY	QTY
	44D0594	REF

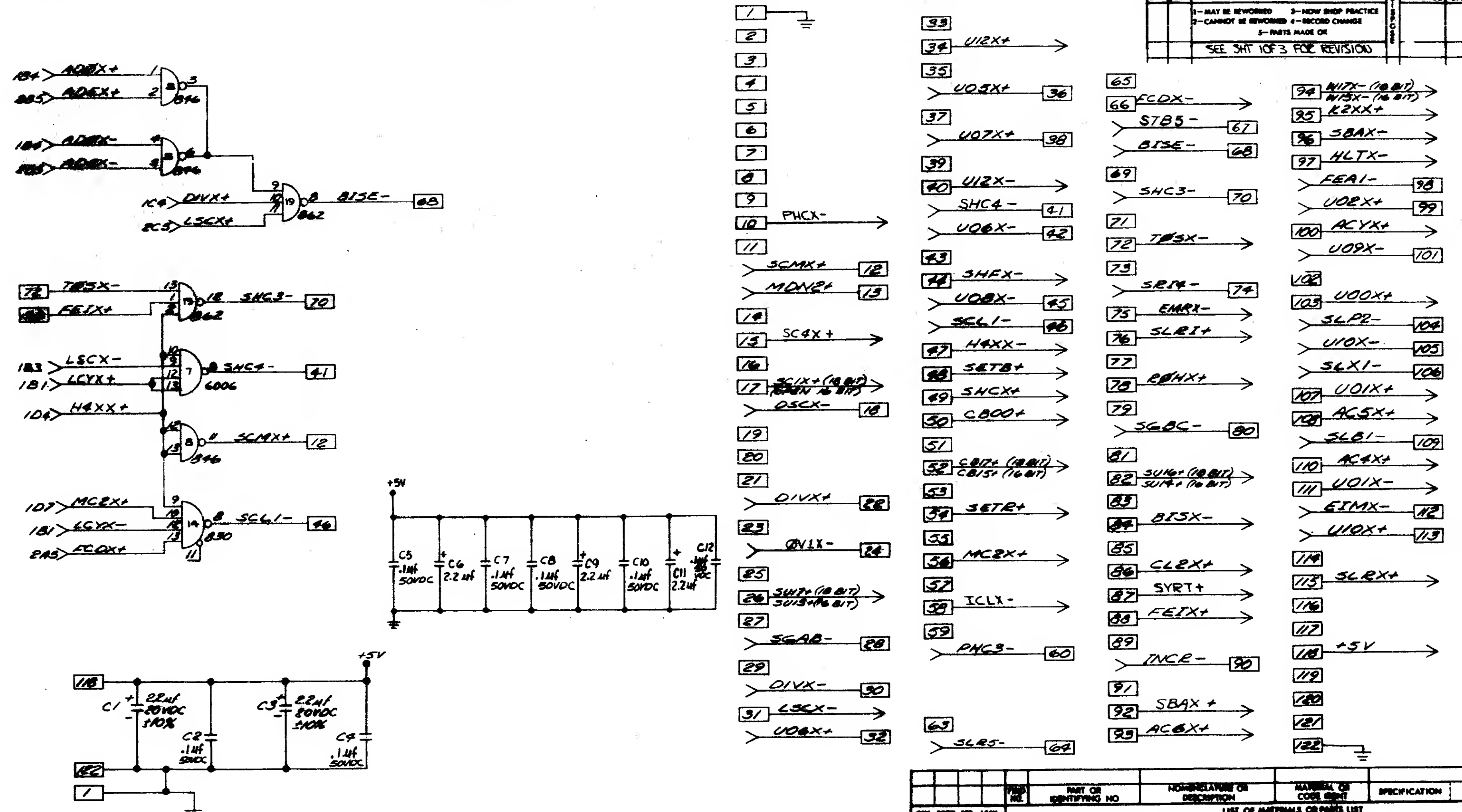
DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL
APPROVED
APPROVED
DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

LOGIC DIAGRAM
DM338
MULTIPLY DIVIDE & E.A.

CODE IDENT NO 21101
SIZE D
91D0358
REV C
SCALE
SHEET 2 OF 3

SYM	ZONE	DESCRIPTION	D	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
		SEE SHT 1 OF 3 FOR REVISION			



QTY REQD PER ASSY				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

DASH NO.	NEXT ASSY	USED ON QTY
	44D0594	ref

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL

APPROVED

APPROVED

NEWPORT BEACH, CALIF.

LOGIC DIAGRAM
DM 338
MULTIPLY/DIVIDE & E.A.

CODE IDENT NO 21101

SIZE D

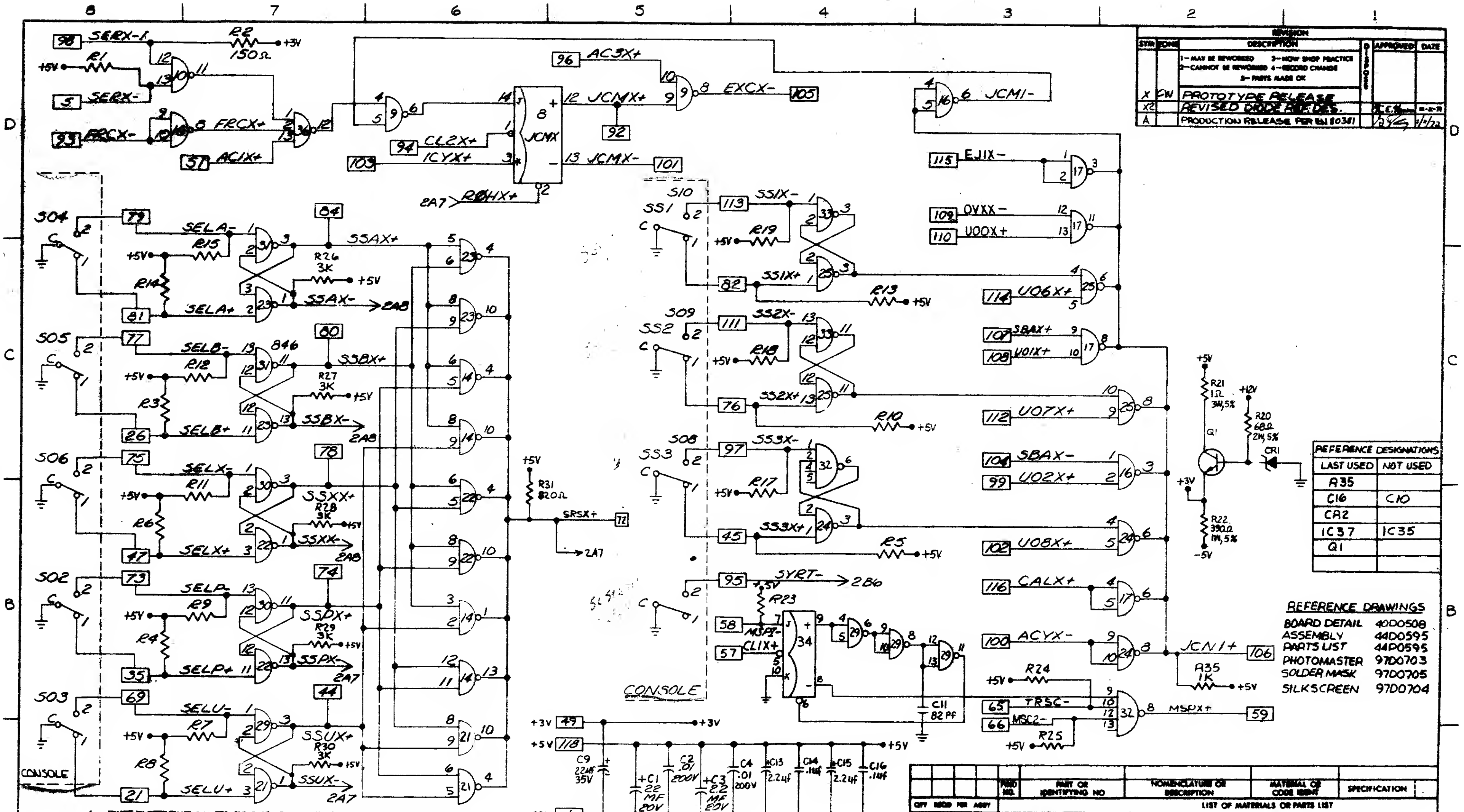
9100358

REV C

SCALE

SHEET 9 OF 9

NOTE: UNLESS OTHERWISE SPECIFIED



STR	ZONE	DESCRIPTION		APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
X	DW	PROTOTYPE RELEASE			
X2		REVISED DIODE REF. DES.		R.E.Hansen	12-2-71
A		PRODUCTION RELEASE PER EN 80381			1/4/72

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R35	
C16	C10
CR2	
IC37	IC35
Q1	

REFERENCE DRAWINGS

BOARD DETAIL	40D0508
ASSEMBLY	44D0595
PARTS LIST	44P0595
PHOTOMASTER	97D0703
SOLDER MASK	97D0705
SILKSCREEN	97D0704

6. PWR DISTRIBUTION TO IC'S 18,19,26 & 27: PIN 5 = +5V, PIN 12 = GND.
5. PWR DISTRIBUTION TO IC'S 1,4,8 & 34: PIN 4 = +5V, PIN 11 = GND.
4. POWER DISTRIBUTION TO IC'S: PIN 7 = GND, PIN 14 = +5V. (EXCEPTIONS-NOTES 5 & 6.)
3. ALL CAPACITOR VALUES ARE ±10%, 500V.
2. ALL RESISTORS ARE 10K, ¼W, ±5%.
1. THE SYMBOLS XXX>— AND —>XXX INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODE. THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZONTAL ZONE AND THE SECOND DIGIT A VERTICAL ZONE.

NOTE: UNLESS OTHERWISE SPECIFIED

				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST				

620L-100

DASH NO.	NEXT ASSY	USED ON QTY
000	44D0595	REF

DIMENSIONS ARE IN INCHES AND APPLY AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES
√

DR	C. WARNER	10-14-71
CHK'D		1/11/72
DSGN		—
ENGR	R. E. Hansen	1-11-72
PROJ		1-11-72
REL		

APPROVED

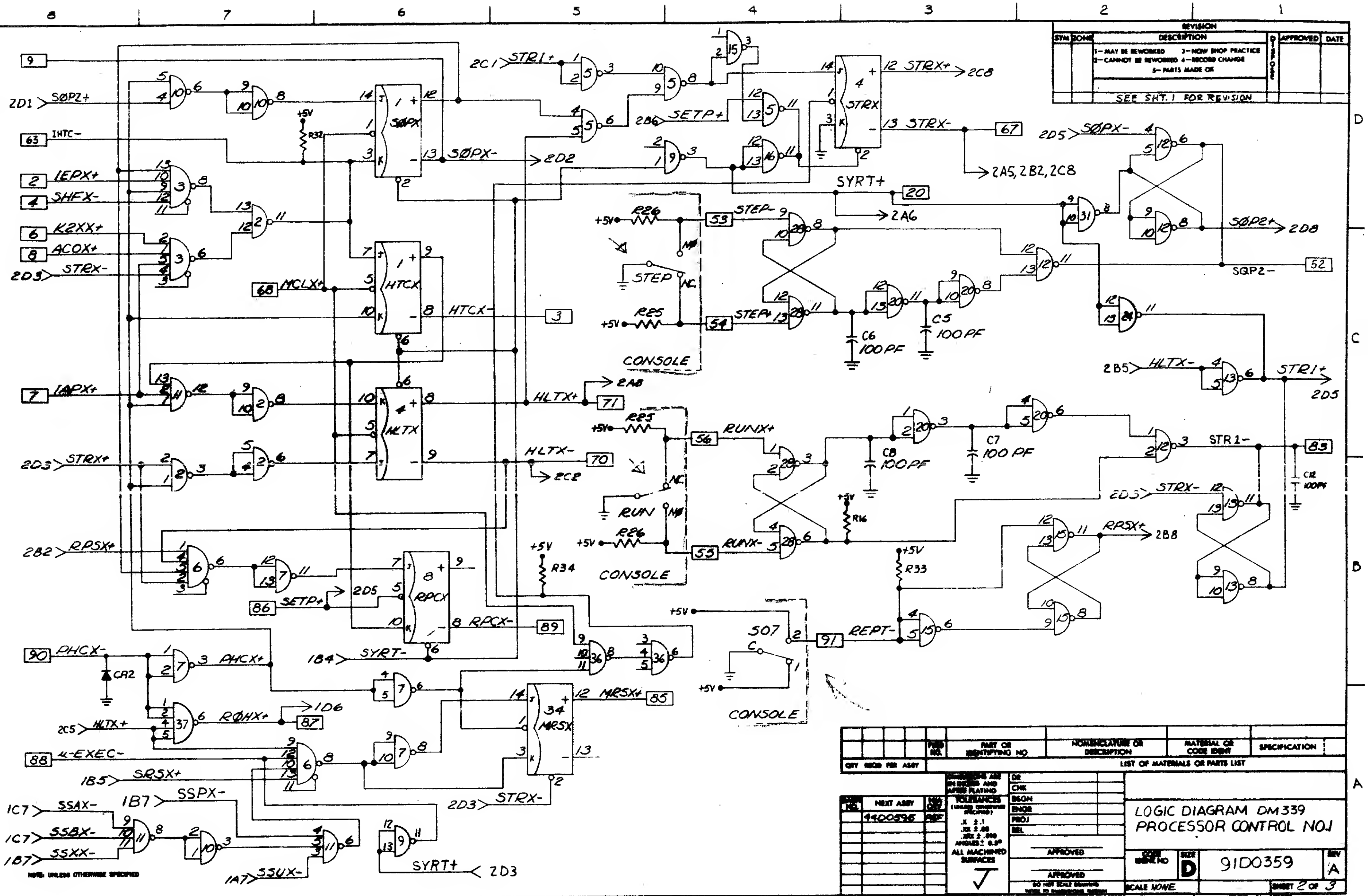
APPROVED

DO NOT SCALE DRAWING

LOGIC DIAGRAM — PROCESSOR CONTROL NO. 1 DM 339

CODE IDENT NO 21101 SIZE D 91D0359 REV A

SCALE NONE SHEET 1 OF 3



REVISION

SYM	ZONE	DESCRIPTION	D	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OF			
		SEE SHT. 1 FOR REVISION			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
		LIST OF MATERIALS OR PARTS LIST			

DASH NO.	NEXT ASSY	NO. QTY
	44D0596	REF

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.05
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL

APPROVED

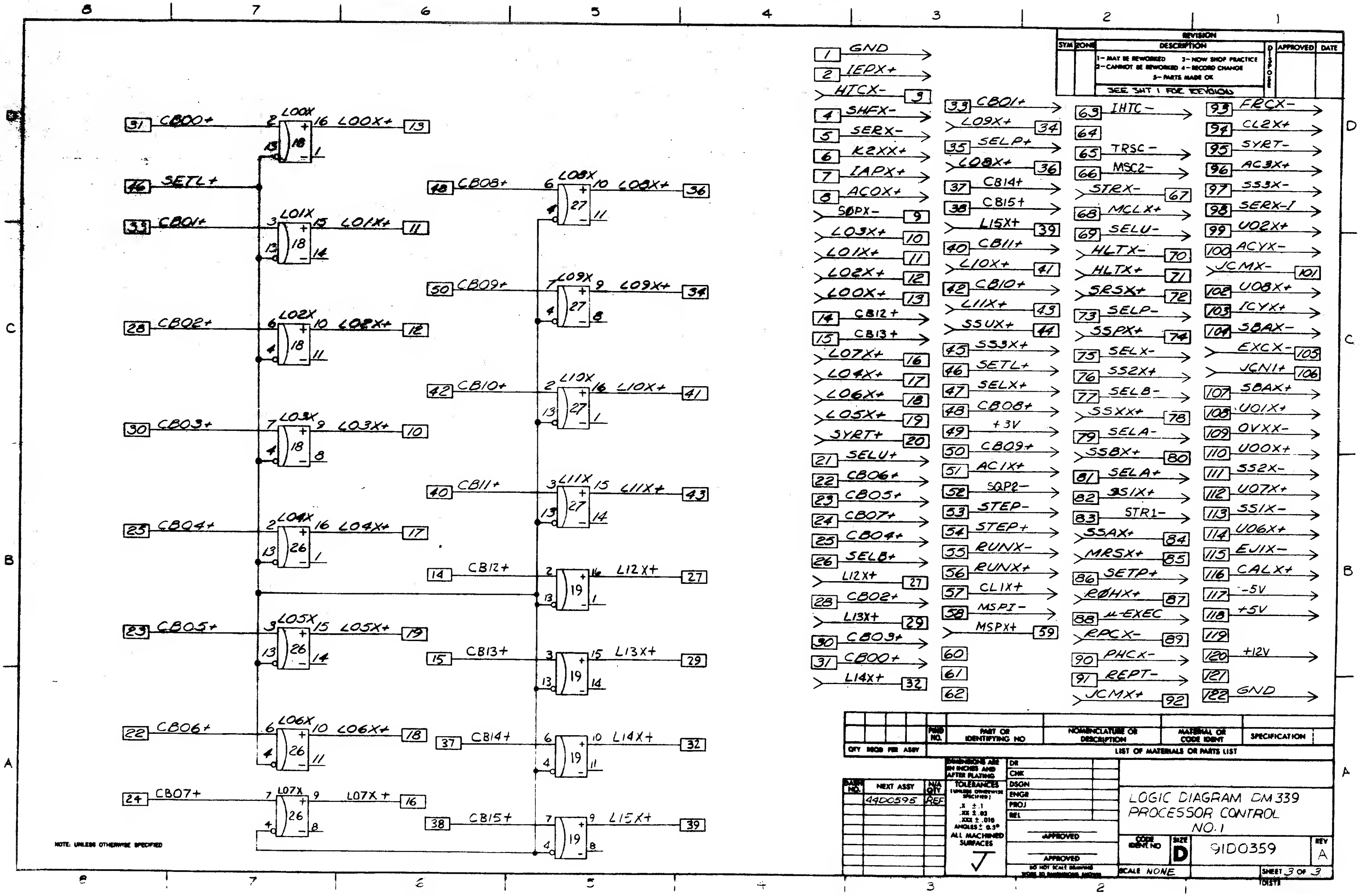
APPROVED

DO NOT SCALE DRAWING
WORK TO DIMENSIONS SHOWN

LOGIC DIAGRAM DM339
PROCESSOR CONTROL NO.1

CODE IDENT NO
SIZE D
91D0359
REV A

SCALE NONE
SHEET 2 OF 3



NOTE: UNLESS OTHERWISE SPECIFIED

REVISION					
SYM	ZONE	DESCRIPTION	DISPOSITION	APPROVED	DATE
		1- MAY BE REWORKED 3- NOW SHOP PRACTICE 2- CANNOT BE REWORKED 4- RECORD CHANGE 5- PARTS MADE OK			
		SEE SHT 1 FOR REVISION			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
		LIST OF MATERIALS OR PARTS LIST			

DASH NO.	NEXT ASSY	N/A QTY
	44D0595	REF

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL

APPROVED

APPROVED

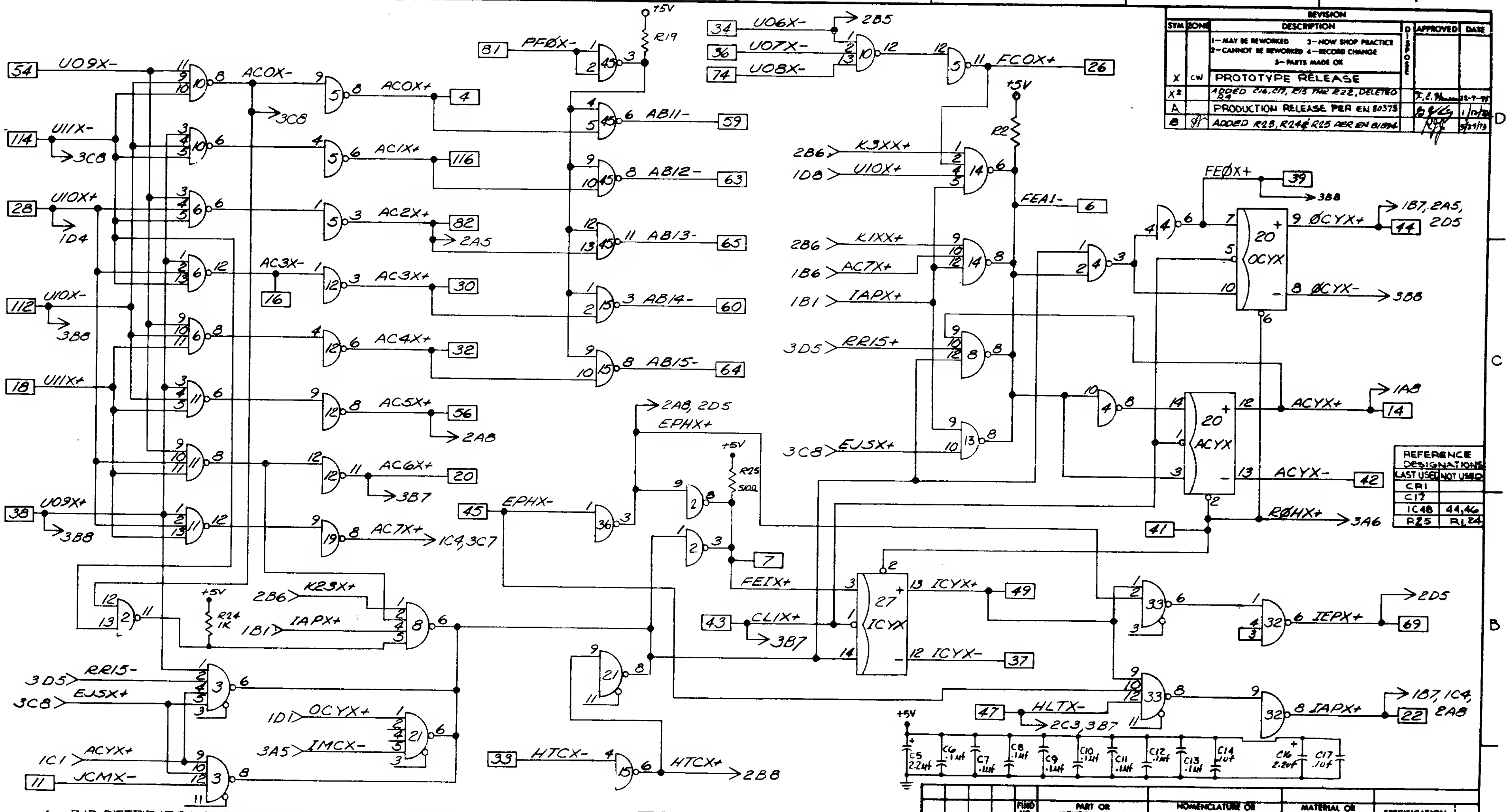
DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

LOGIC DIAGRAM DM339
PROCESSOR CONTROL
NO. 1

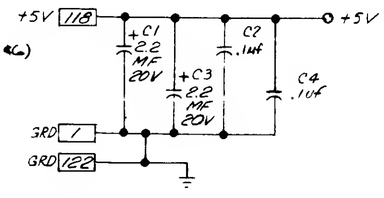
CODE IDENT NO
SIZE D
91D0359
REV A
SCALE NONE
SHEET 3 OF 3
DIST

CAUTION: EN 82844
AFFECTS THIS DWG.

REVISION					
SYM	ZONE	DESCRIPTION 1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK	DISPOSITION	APPROVED	DATE
X	CW	PROTOTYPE RELEASE			
X2		ADDED C16,C17, R15 THRU R22, DELETED R9		T. E. Hanson	12-9-71
A		PRODUCTION RELEASE PER EN 80375			1/12/72
B		ADDED R23, R24 & R25 PER EN 81894			3/29/73



REFERENCE DESIGNATIONS	
LAST USED	NOT USED
CR1	
C17	
IC48	44,46
R25	R1,R24



6. PWR. DISTRIBUTION TO IC'S 9, 20 & 27: PIN 4 = +5V, PIN 11 = GND.
5. PWR. DISTRIBUTION TO IC41: PIN 5 = +5V, PIN 12 = GND.
4. PWR. DISTRIBUTION TO IC'S: PIN 14 = +5V, PIN 7 = GND. (EXCEPTIONS NOTE 5 & 6)
3. ALL CAPACITOR VALUES ARE ± 10%.
2. ALL RESISTORS ARE 1.0K, 1/4W ± 5%.
1. THE SYMBOLS XXX>— AND —> INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODE. THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZONTAL AND THE SECOND DIGIT A VERTICAL ZONE

NOTE: UNLESS OTHERWISE SPECIFIED

				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST				

620L-100

DASH NO.	NEXT ASSY	N/A QTY
	4400596	REF

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES
√

DR C. WARNER		10-27-71
CHK. D.		1-12-72
DSGN	——	——
ENGR	T. E. Hanson	1-12-72
PROJ		1-12-72
REL		

APPROVED

APPROVED

DO NOT SCALE DRAWING WHEN NO DIMENSIONS SHOWN

varian data machines

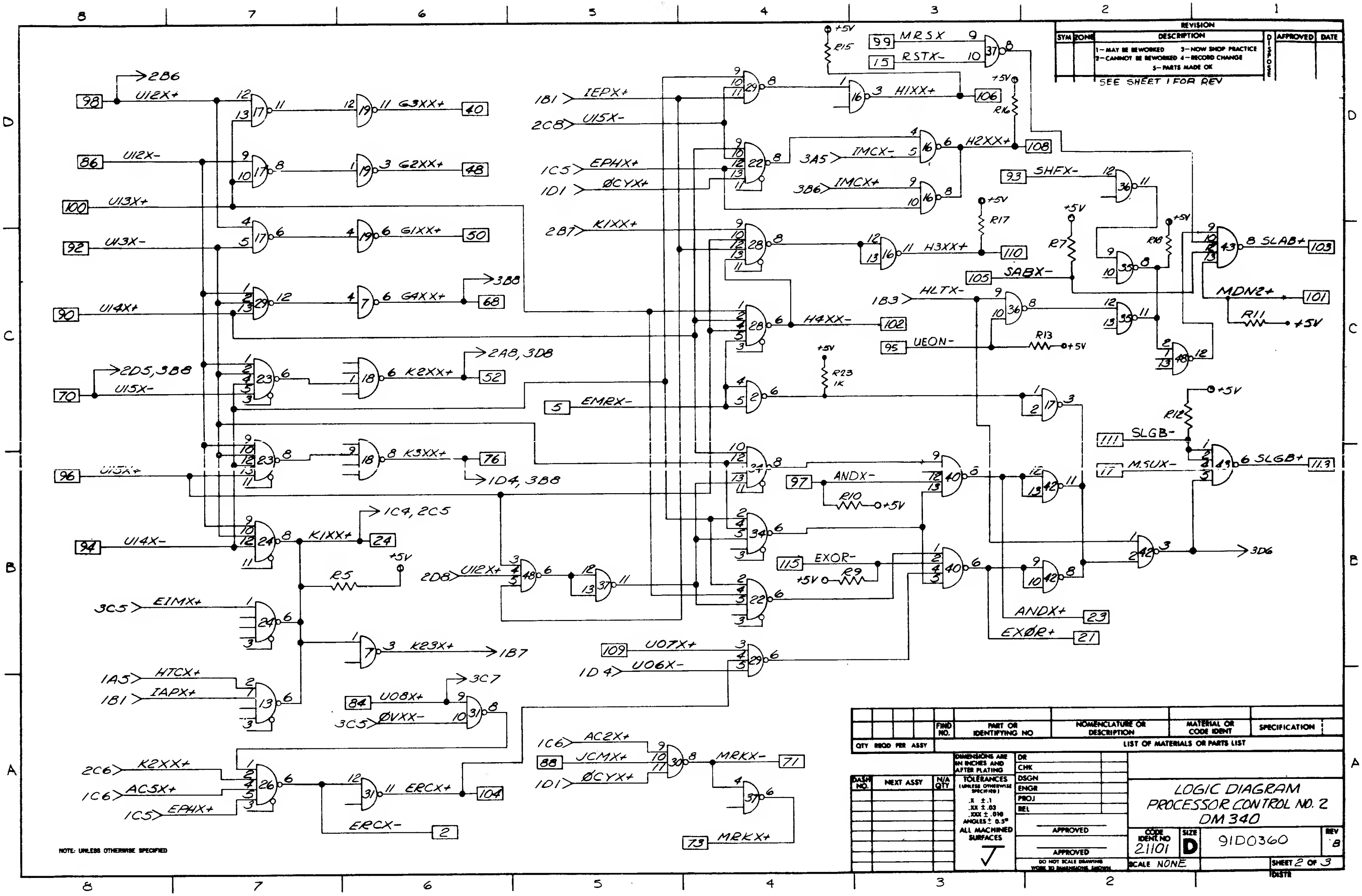
LOGIC DIAGRAM
PROCESSOR CONTROL . NO. 2
DM 340

CODE IDENT NO	SIZE		REV
21101	D	91D0360	B

SCALE NONE

SHEET 1 OF 3

DISTR



NOTE: UNLESS OTHERWISE SPECIFIED

SYM	ZONE	REVISION DESCRIPTION	DISPOSITION	APPROVED	DATE
		1– MAY BE REWORKED 3– NOW SHOP PRACTICE 2– CANNOT BE REWORKED 4– RECORD CHANGE 5– PARTS MADE OK			
		SEE SHEET 1 FOR REV			

QTY REQD PER ASSY					FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

DASH NO. | NEXT ASSY | N/A QTY

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL

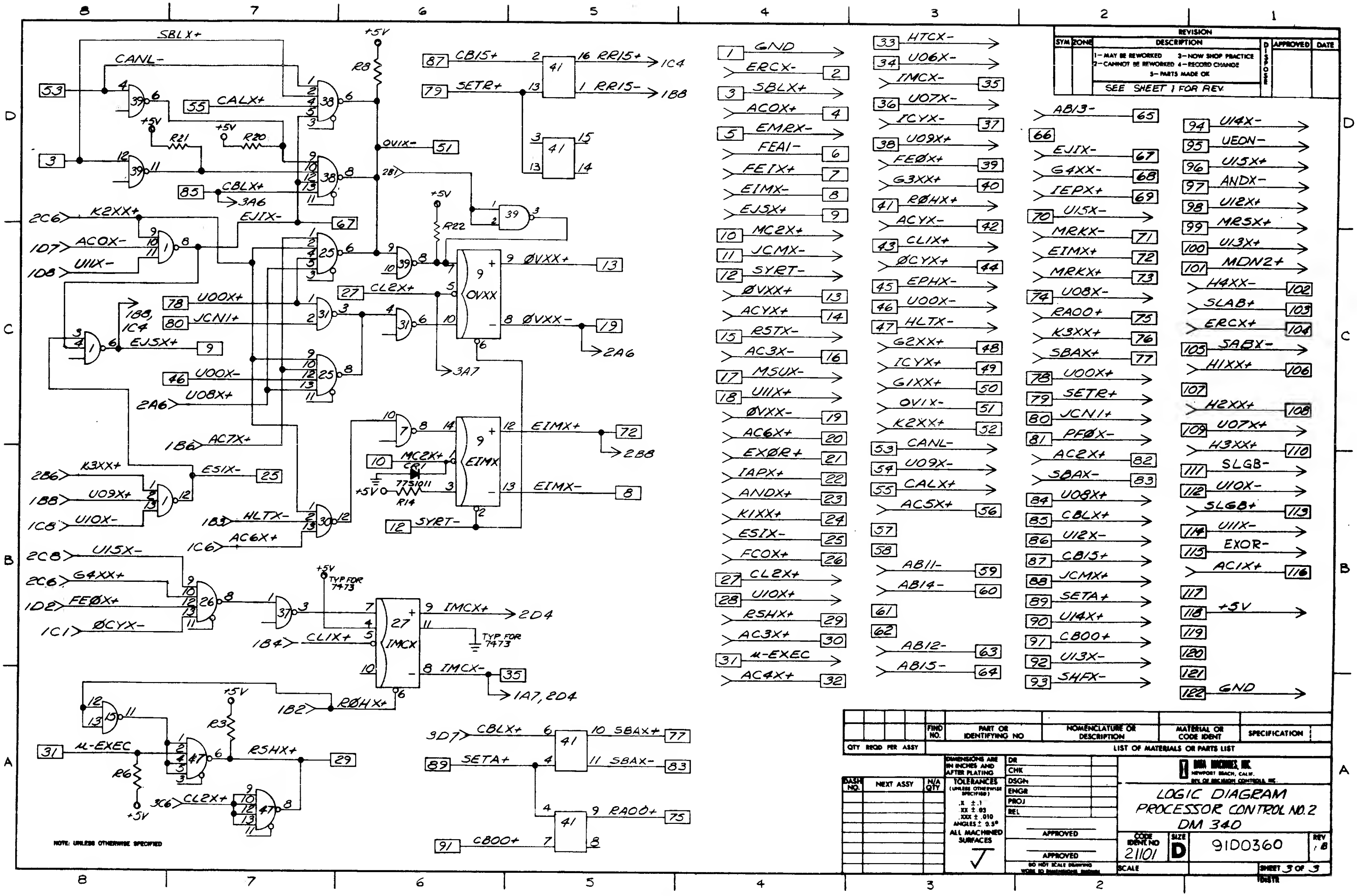
APPROVED

APPROVED

DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

LOGIC DIAGRAM
PROCESSOR CONTROL NO. 2
DM 340

CODE IDENT NO 21101
SIZE D
91D0360
REV B
SCALE NONE
SHEET 2 OF 3
DISTR



SYM	ZONE	REVISION DESCRIPTION	D I S P O S	APPROVED	DATE
		1-MAY BE REWORKED 3-NOW SHOP PRACTICE 2-CANNOT BE REWORKED 4-RECORD CHANGE 5-PARTS MADE OK			
		SEE SHEET 1 FOR REV.			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

DASH NO. | NEXT ASSY | N/A QTY

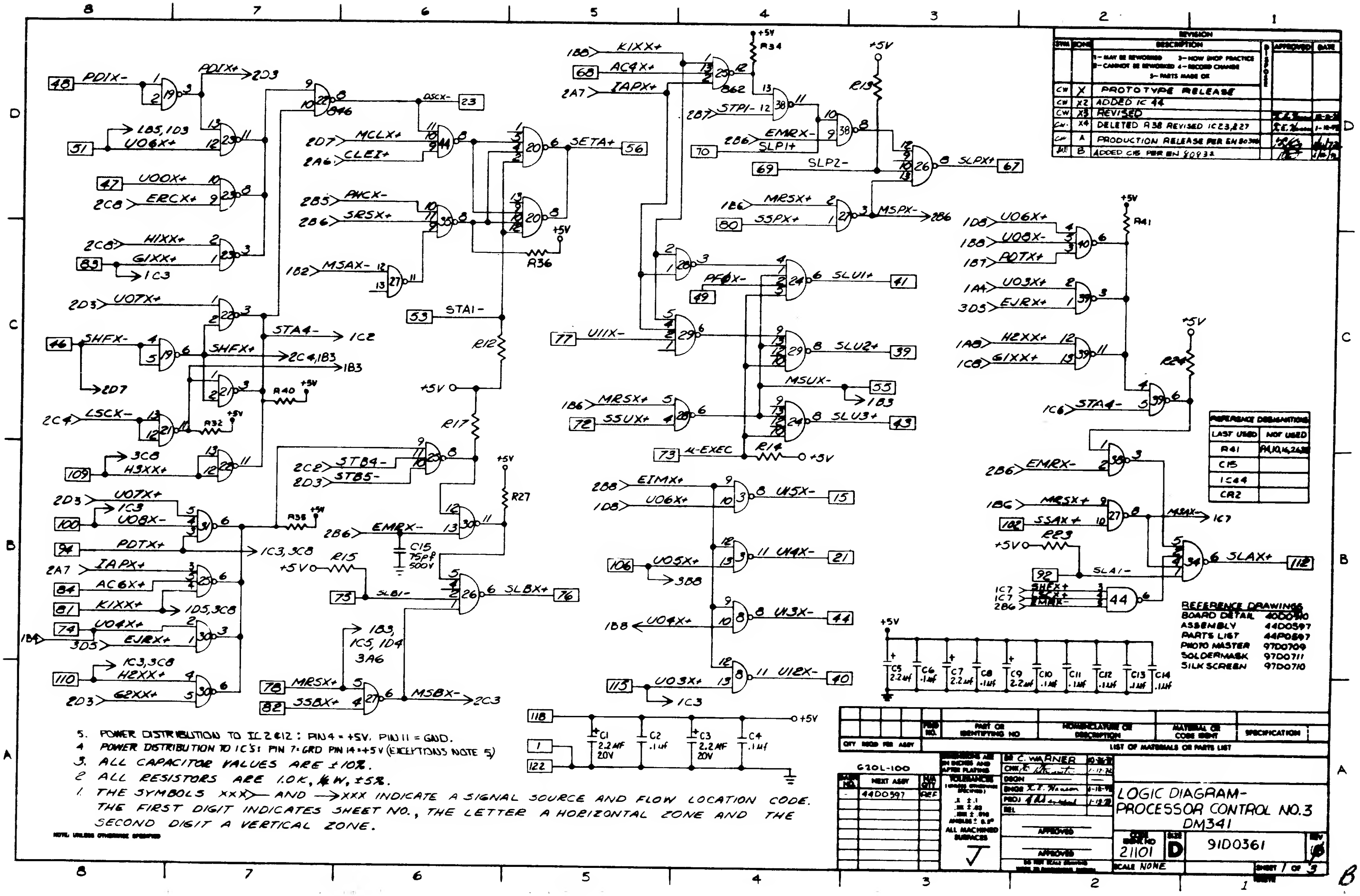
DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES

DR
CHK
DSGN
ENGR
PROJ
REL
APPROVED
APPROVED
DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

DATA MACHINES, INC.
NEWPORT BEACH, CALIF.
DIV. OF DECISION CONTROL, INC.

LOGIC DIAGRAM
PROCESSOR CONTROL NO. 2
DM 340

CODE IDENT NO 21101 | SIZE D | 91D0360 | REV B
SCALE | SHEET 3 OF 3



REVISION					
SYM	ZONE	DESCRIPTION		APPROVED	DATE
		1- MAY BE REWORKED 3- NOW SHOP PRACTICE 2- CANNOT BE REWORKED 4- RECORD CHANGE 5- PARTS MADE OK			
CW	X	PROTOTYPE RELEASE			
CW	X2	ADDED IC 44			
CW	X3	REVISED			
CW	X4	DELETED R38 REVISED IC23,&27		K.E. [illegible]	1-18-[illegible]
CW	A	PRODUCTION RELEASE PER EN 80306		[illegible]	[illegible]
[illegible]	B	ADDED C15 PER EN 80932		[illegible]	[illegible]

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
R41	R4,10,16,26[illegible]
C15	
IC44	
CR2	

REFERENCE DRAWINGS

BOARD DETAIL	40D0[illegible]0
ASSEMBLY	44D0597
PARTS LIST	44P0597
PHOTO MASTER	97D0709
SOLDERMASK	97D0711
SILK SCREEN	97D0710

5. POWER DISTRIBUTION TO IC 2 & 12 : PIN 4 = +5V. PIN 11 = GND.
4 POWER DISTRIBUTION TO IC'S: PIN 7 = GRD PIN 14 = +5V (EXCEPTIONS NOTE 5)
3. ALL CAPACITOR VALUES ARE ±10%.
2 ALL RESISTORS ARE 1.0K, ¼W, ±5%.
1. THE SYMBOLS XXX>— AND —>XXX INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODE. THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZONTAL ZONE AND THE SECOND DIGIT A VERTICAL ZONE.

NOTE: UNLESS OTHERWISE SPECIFIED

				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST				

620L-100

PART NO.	NEXT ASSY	USED ON QTY
-	44D0597	REF

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES
√

DR C. WARNER 10-26-[illegible]
CHK [illegible] 1-17-72
DSGN — —
ENGR K.E. [illegible] 1-18-72
PROJ [illegible] 1-12-72
REL

APPROVED

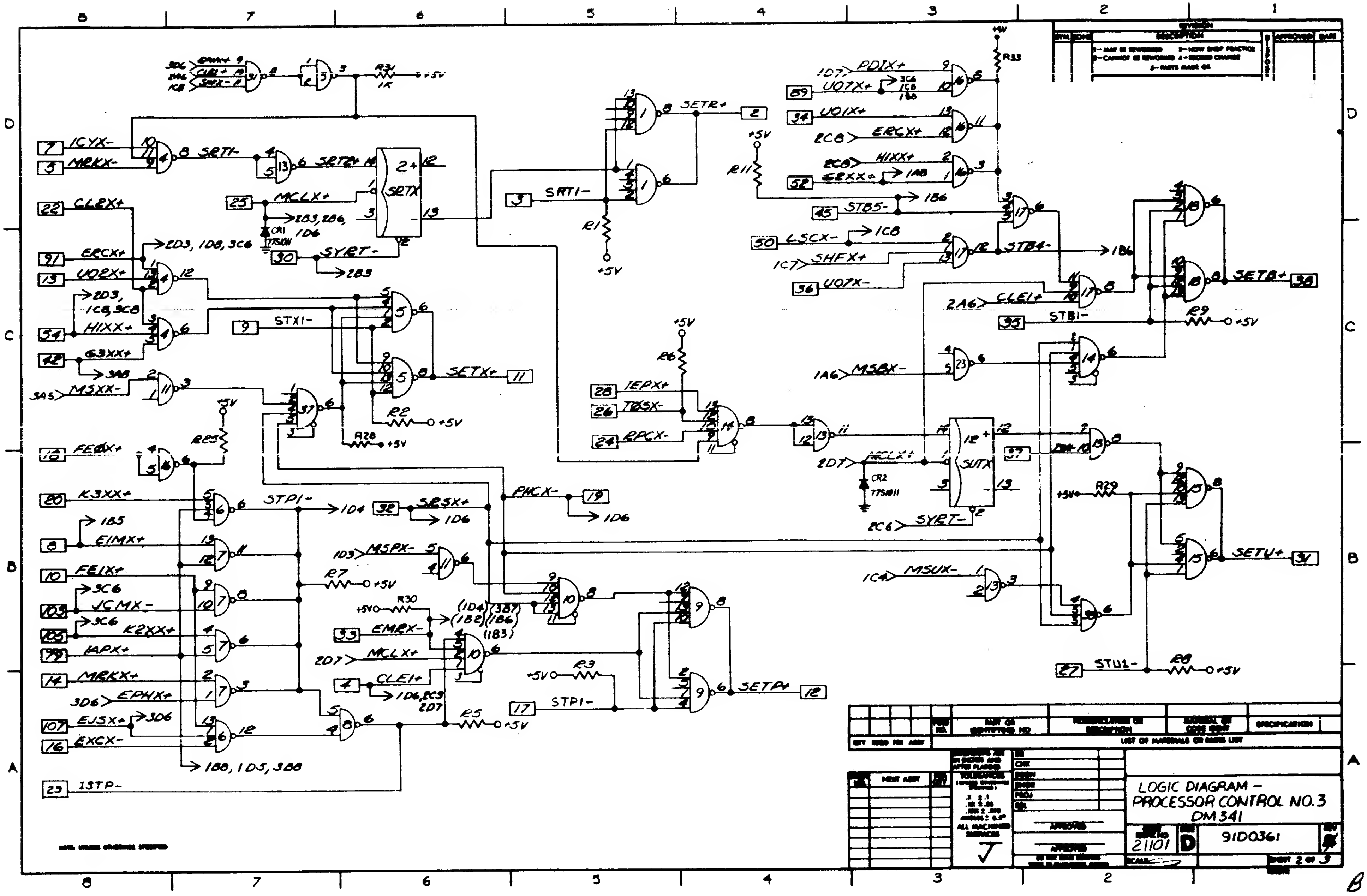
APPROVED

DO NOT SCALE DRAWING

LOGIC DIAGRAM-
PROCESSOR CONTROL NO.3
DM341

CODE IDENT NO 21101
SIZE D
91D0361
REV B
SCALE NONE
SHEET 1 OF 3

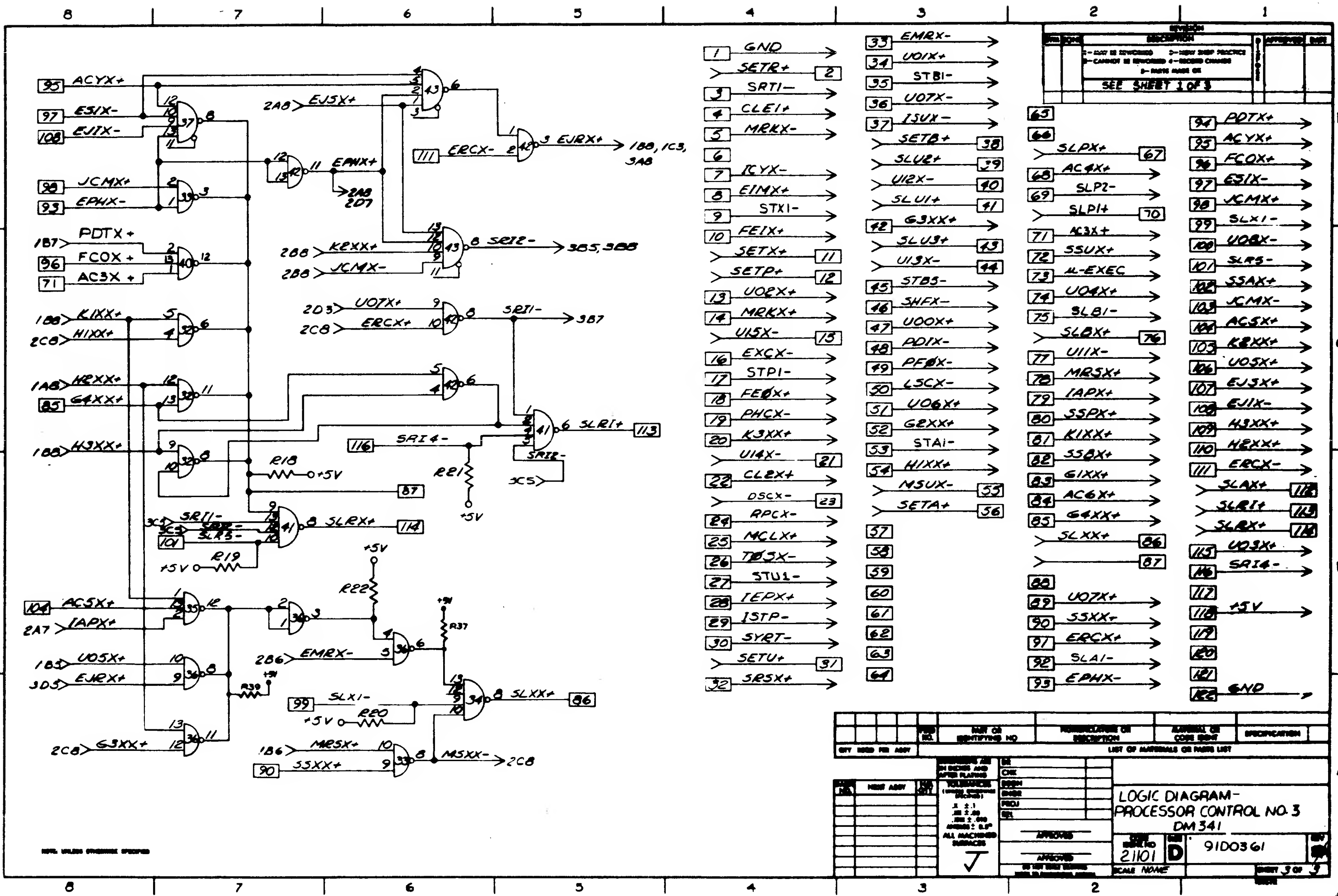
B



LOGIC DIAGRAM –
PROCESSOR CONTROL NO. 3
DM341

21101 D 91D0361

SHEET 2 OF 3



REVISION
SEE SHEET 1 OF 3

LIST OF MATERIALS OR PARTS LIST

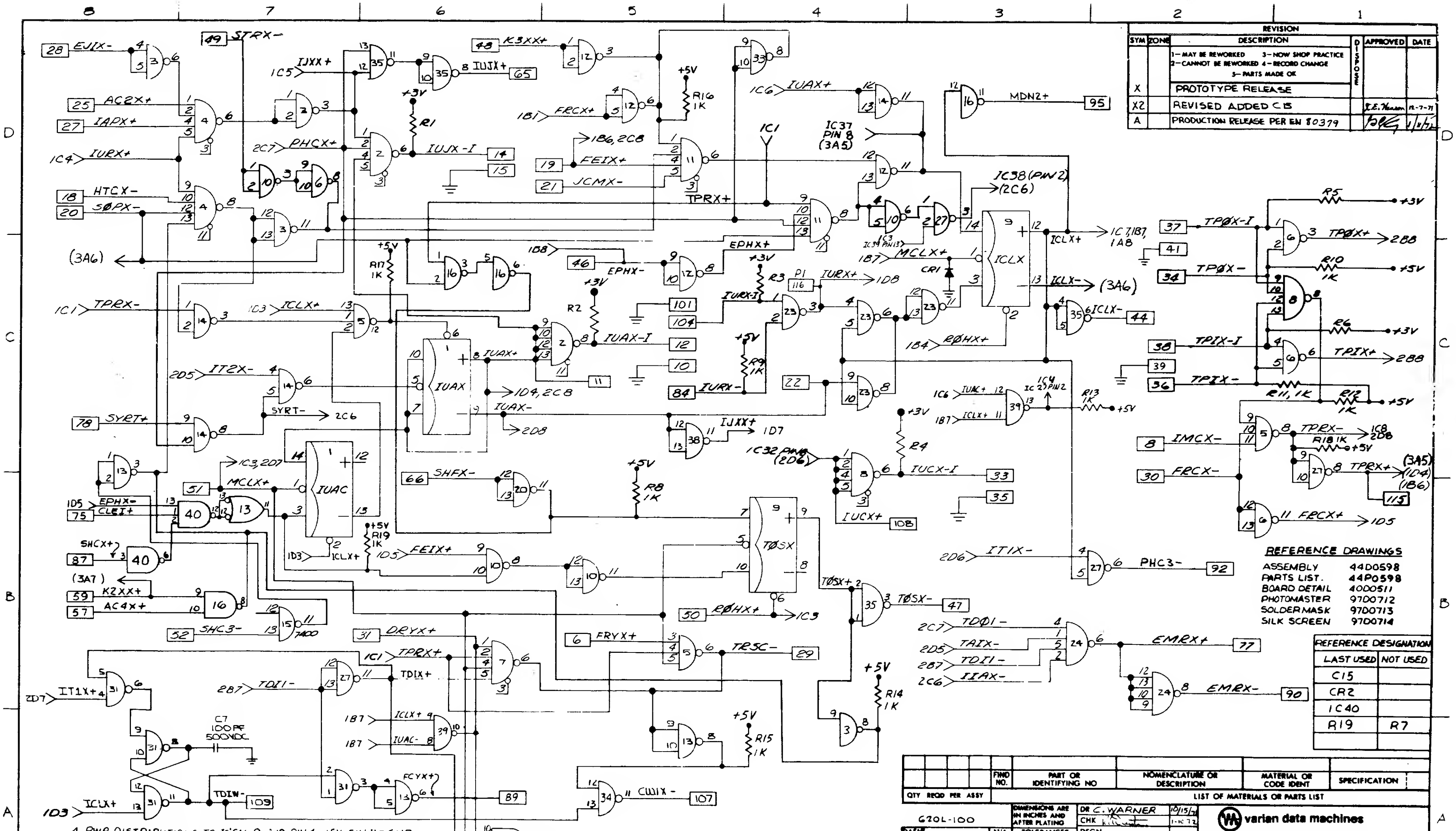
LOGIC DIAGRAM-
PROCESSOR CONTROL NO. 3
DM 341

21101 D 91D0361

SCALE NONE

SHEET 3 OF 3

B



REVISION					
SYM	ZONE	DESCRIPTION	DISPOSE	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
X		PROTOTYPE RELEASE			
X2		REVISED ADDED C15		R.E. Hanson	12-7-71
A		PRODUCTION RELEASE PER EN 80379			1/11/72

REFERENCE DRAWINGS

ASSEMBLY	44D0598
PARTS LIST.	44P0598
BOARD DETAIL	40D0511
PHOTOMASTER	97D0712
SOLDERMASK	97D0713
SILK SCREEN	97D0714

REFERENCE DESIGNATION	
LAST USED	NOT USED
C15	
CR2	
1C40	
R19	R7

4. PWR DISTRIBUTIONS TO IC'S: 1, 9, & 19 PIN 4 = +5V, PIN 11 = GND
3. PWR DISTRIBUTION TO IC'S: PIN 14 = +5V, PIN 7 = GND. EXCEPTIONS NOTE 4
2. ALL RESISTORS ARE 150Ω, 1/4 W, ±5%.
1 THE SYMBOLS XXX> AND →XXX INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODE. THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZONTAL ZONE AND THE SECOND DIGIT A VERTICAL ZONE.

NOTE: UNLESS OTHERWISE SPECIFIED

				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION	
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST					

620L-100

DASH NO.	NEXT ASSY	N/A QTY
	44D0598	

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR	C. WARNER	10/15/71
CHK		1-10-72
DSGN		
ENGR	R. E. Hanson	1-10-72
PROJ		1-11-72
REL		

APPROVED

APPROVED

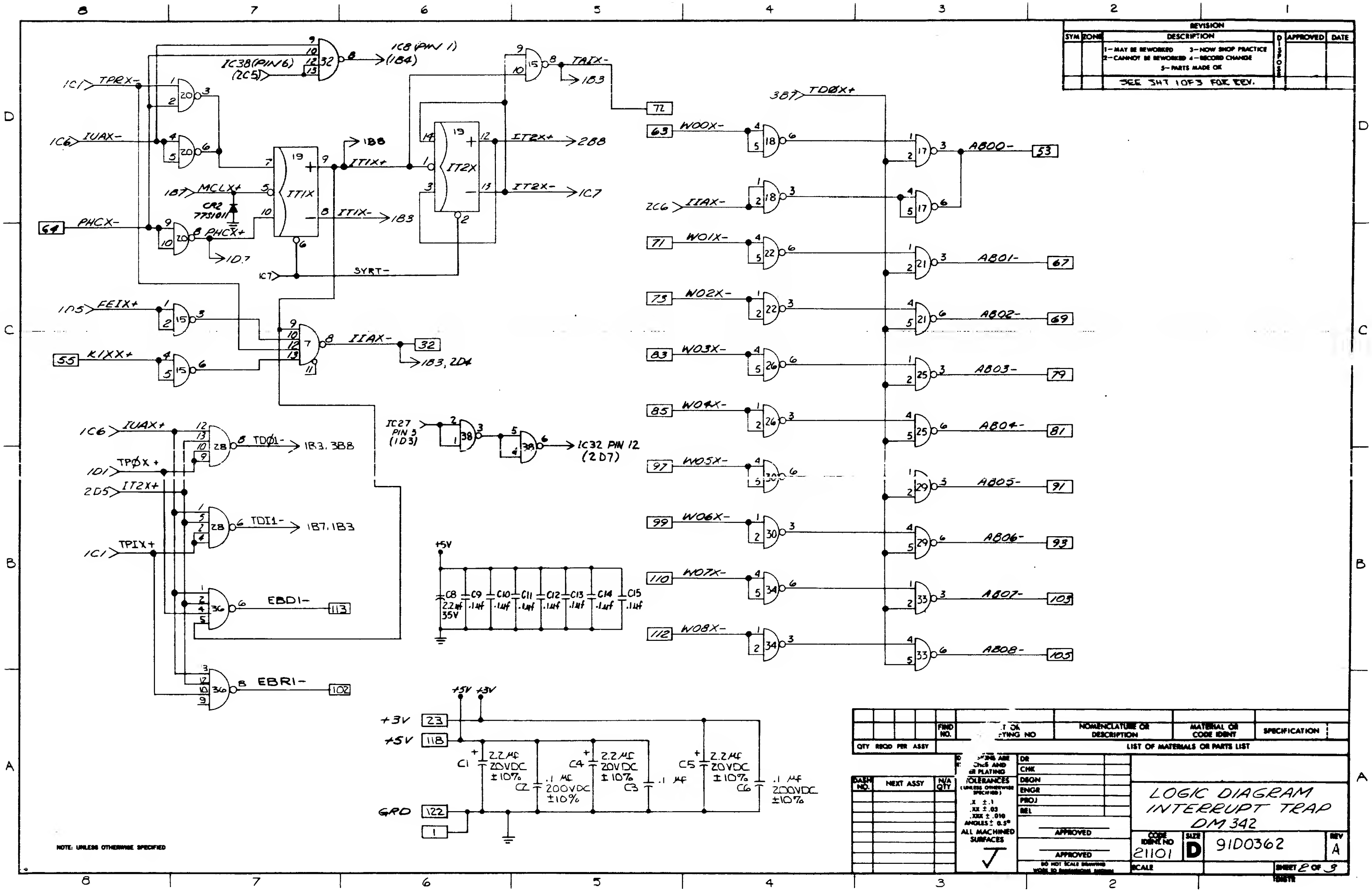
DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

varian data machines

LOGIC DIAGRAM
INTERRUPT TRAP
DM 342

CODE IDENT NO	SIZE		REV
21101	D	91D0362	A
SCALE		SHEET / OF 9	

DISTR



REVISION					
SYM	ZONE	DESCRIPTION	DISPOSE	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
		SEE SHT 1 OF 3 FOR REV.			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

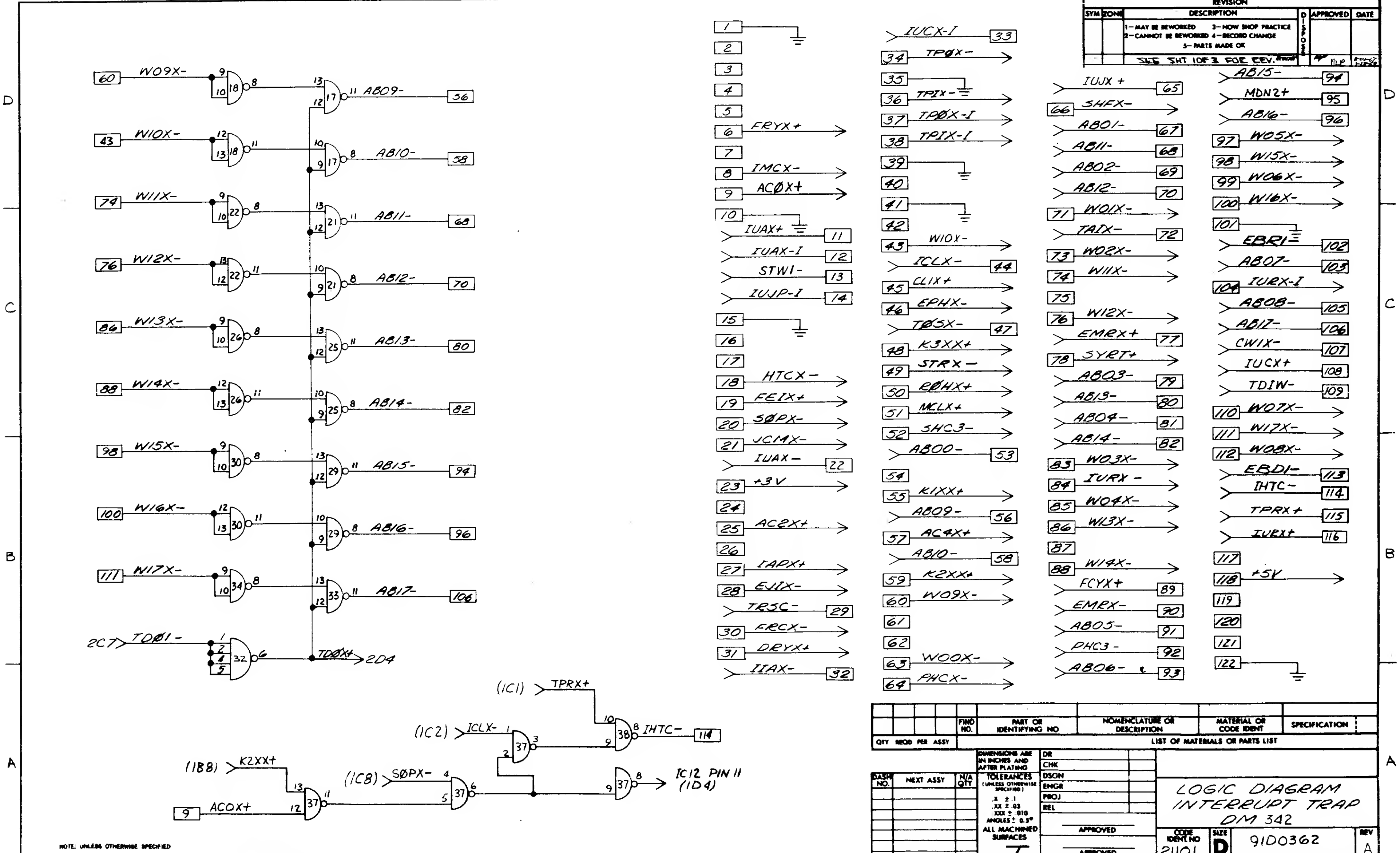
DASH NO.	NEXT ASSY	N/A QTY

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL
APPROVED
APPROVED
DO NOT SCALE DRAWING

LOGIC DIAGRAM
INTERRUPT TRAP
DM 342

CODE IDENT NO 21101
SIZE D
91D0362
REV A
SCALE
SHEET 2 OF 3



REVISION					
SYM	ZONE	DESCRIPTION	DISPOSITION	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
		SEE SHT 1 OF 3 FOR REV.			

QTY REQD PER ASSY				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
					LIST OF MATERIALS OR PARTS LIST			

DASH NO.	NEXT ASSY	N/A QTY

DIMENSIONS ARE IN INCHES AND APPLY AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR
CHK
DSGN
ENGR
PROJ
REL

APPROVED

APPROVED

DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

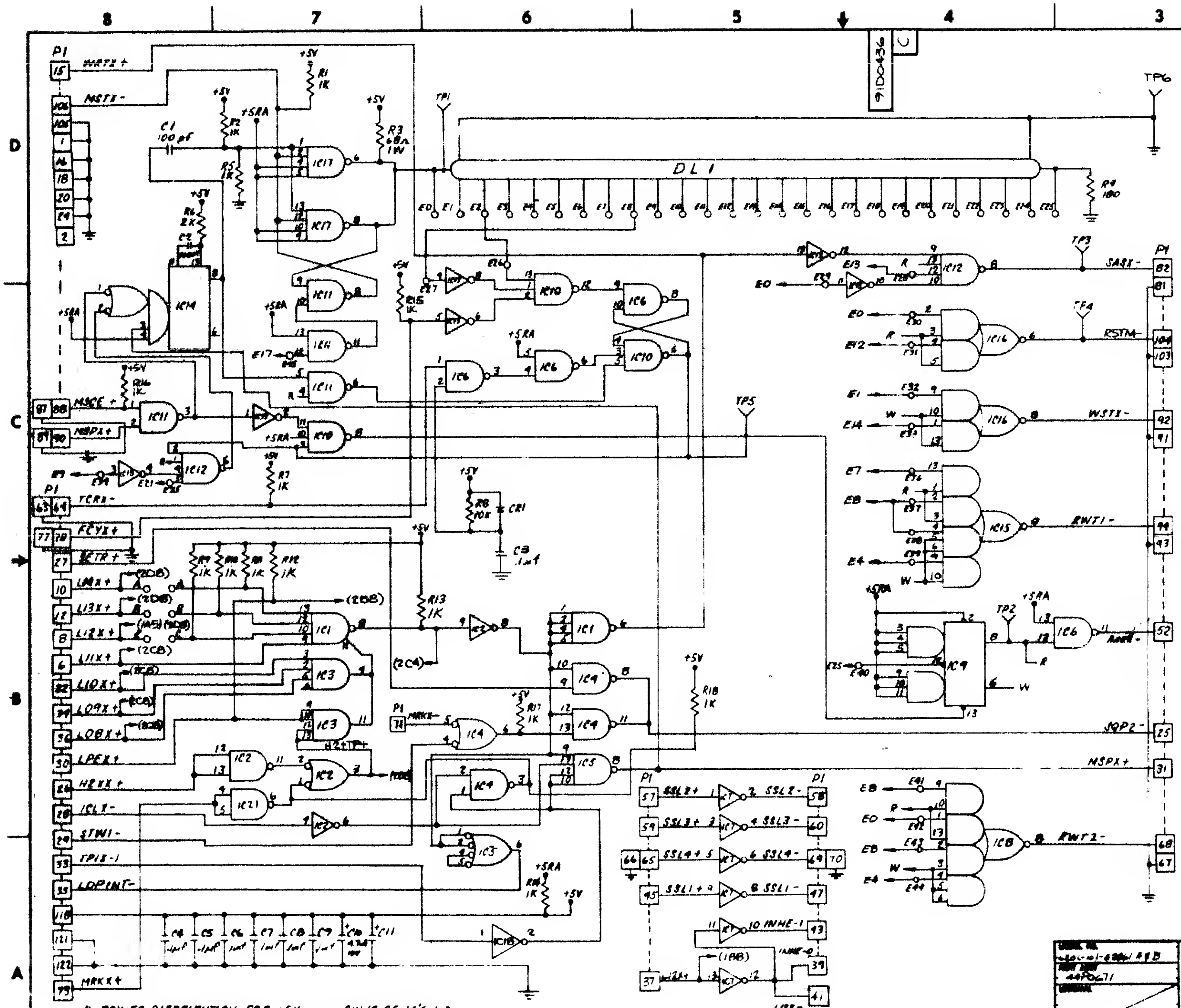
LOGIC DIAGRAM INTERRUPT TRAP DM 342

CODE IDENT NO 21101 SIZE D 9100362 REV A

SCALE SHEET 3 OF 3

NOTE: UNLESS OTHERWISE SPECIFIED

CODE	SYM	ZONE	REVISIONS DESCRIPTION	APPROVED	DATE
	B	[illegible]	REVISED AND REDRAWN PER EN 31815	W. Brown	[illegible]
1	C	[illegible]	ADDED GATE IC21 OUTPUT 6, R17 & 18 AND REVISED PER EN 82526	W. Brown	[illegible]-73



REFERENCE DESIGNATORS	
LAST USED	NOT USED
C11	
CR1	
DL1	
E45	
IC22	
P1	
R18	
TP6	

91D0436 C

REFERENCE DRAWINGS

44D0671	ASSEMBLY
44P0671	P/L
40D0607	PW BOARD
97D0837	ARTWORK

2 POWER DISTRIBUTION FOR +5V = PIN 14 OF IC'S 1,2
4 THRU 17. FOR GROUND = PIN 7 OF IC1 THRU IC17.
1. ALL RESISTOR VALUES ARE IN OHMS, ±5% 1/4 W

NOTE: UNLESS OTHERWISE SPECIFIED

DR D. WISE	-9-73
CHK R. DUSTON	73
DSGN D. WISE	1-9-73
ENGR [illegible] WATI	[illegible]
APPD [illegible]	[illegible]-73
APPD	

varian data machines a varian subsidiary

TITLE MEMORY T & CONT LOGIC DM395

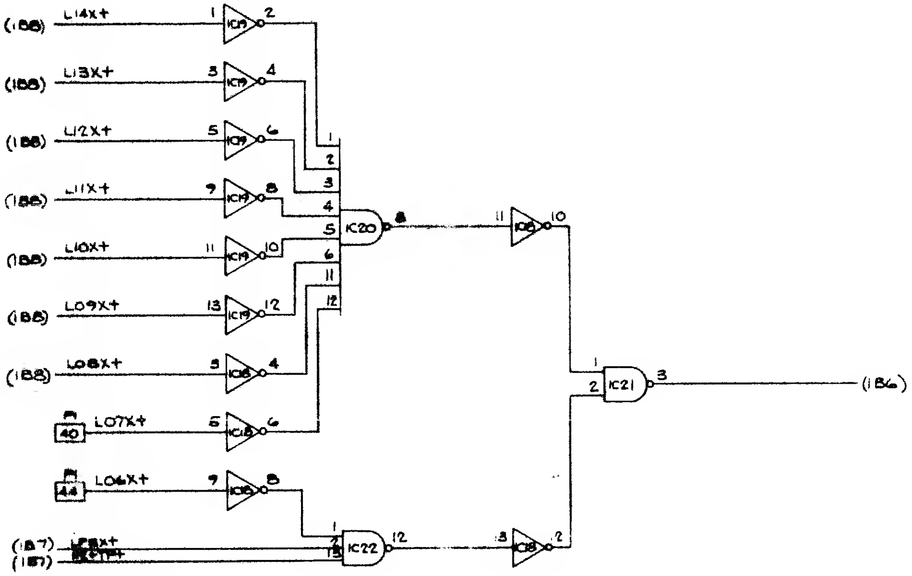
CODE IDENT NO. 21101 SIZE D DWG NO 91D0436 REV C

SCALE NONE SHEET 1 OF 5

9100436 C

REVISIONS

SYM	ZONE	DESCRIPTION	APPROVED	DATE



9100436 C

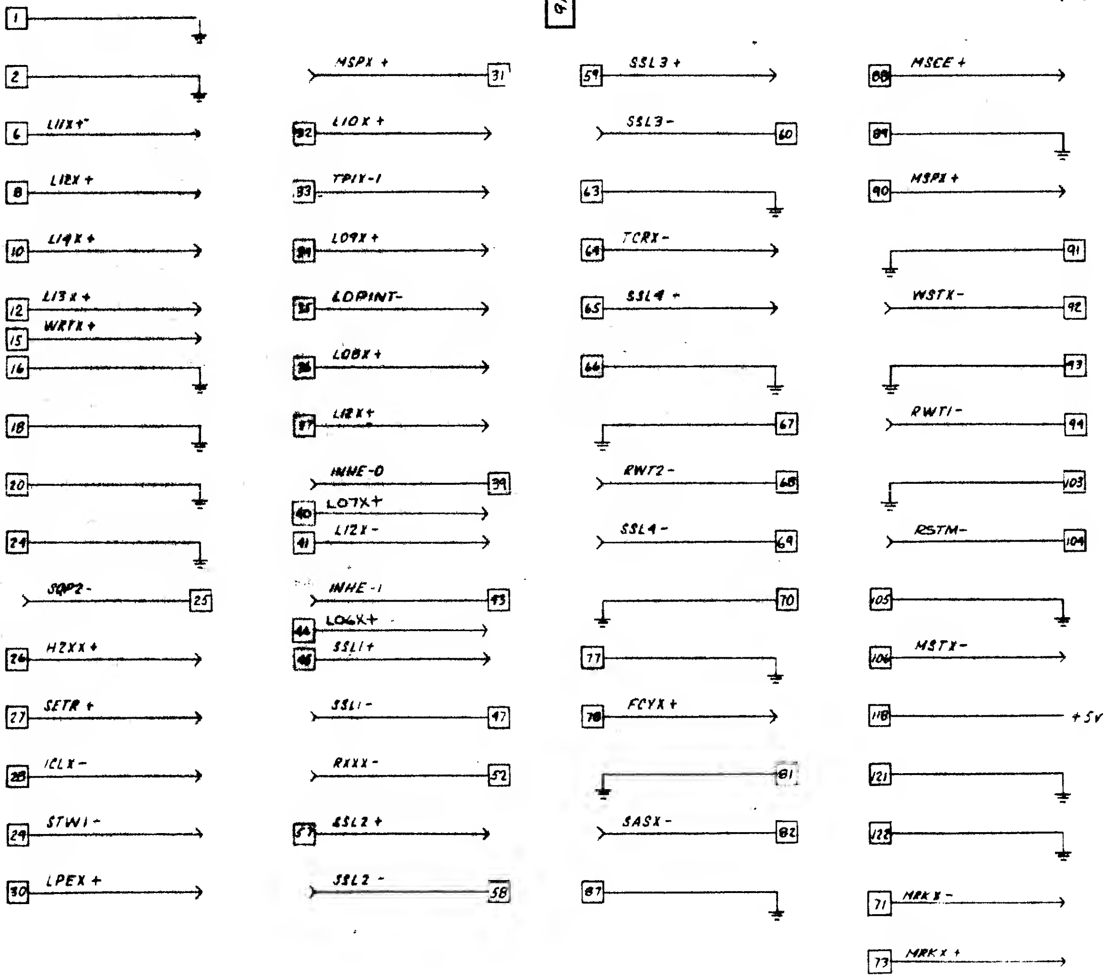
NOTE: UNLESS OTHERWISE SPECIFIED

CAGE IDENT NO.	SIZE	DWG NO	REV
21101	D	9100436	C
SCALE		SHEET 2 OF 3	

9100436 C

REVISIONS

SEE SHEET 1



9100436 C

NOTE UNLESS OTHERWISE SPECIFIED

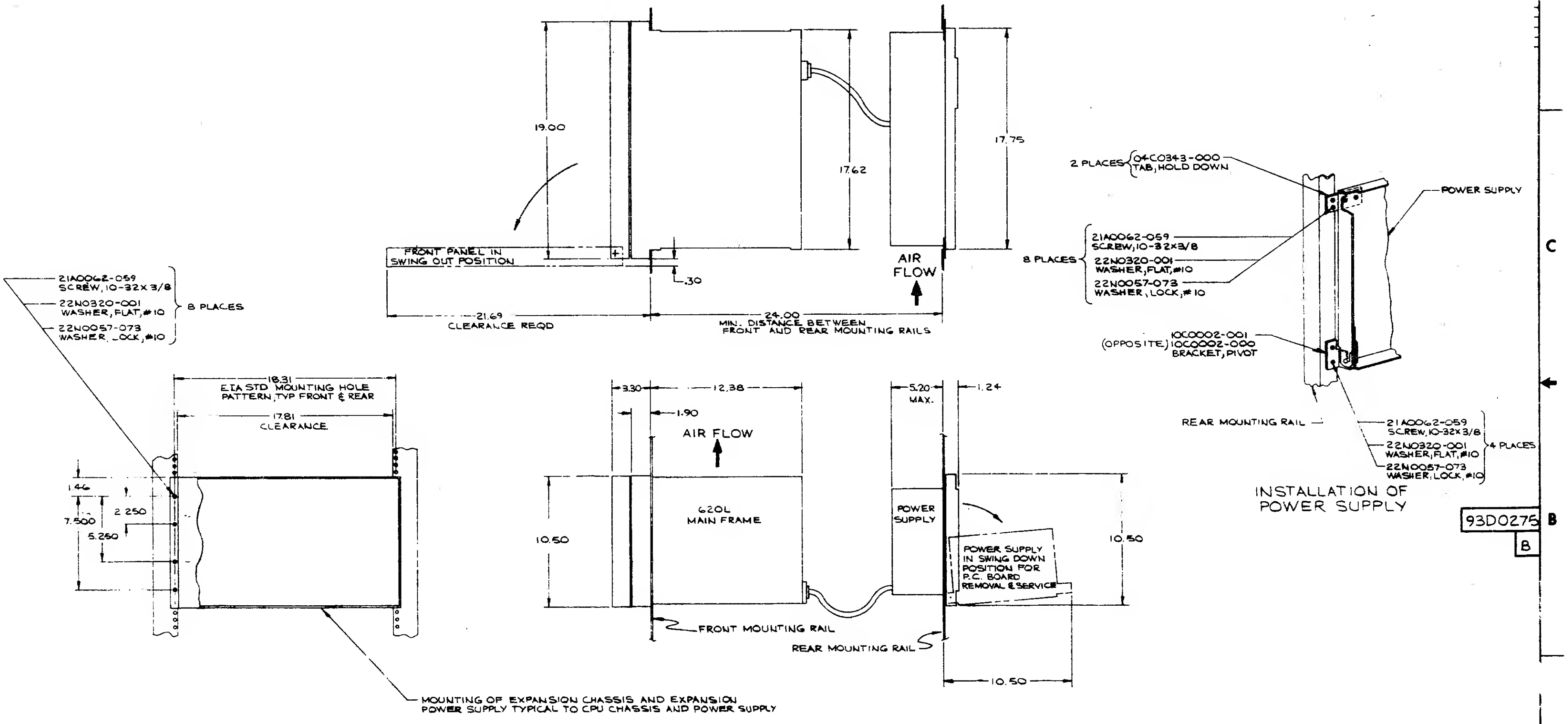
21101 D 9100436

SCALE NONE

SHEET 3

93D0275 B

REVISIONS				
SYM	ZONE	DESCRIPTION	APPROVED	DATE
A	B3	PRODUCTION RELEASE EN 5412		4/7/71
B		REVISE CPU TOP VIEW, ADDED DIM CPU INSIDE VIEW PER EN 5666		



INSTALLATION OF POWER SUPPLY

MOUNTING OF EXPANSION CHASSIS AND EXPANSION POWER SUPPLY TYPICAL TO CPU CHASSIS AND POWER SUPPLY

NOTE: UNLESS OTHERWISE SPECIFIED

MODEL NO. 620/L
NEXT ASSY MULTIPLE USAGE
MATERIAL
FINISH

DIMENSIONS ARE IN INCHES AND AFTER FINISHING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
BREAK ALL SHARP EDGES .030 R APPROX
DO NOT SCALE DRAWING

DR 3/26/71
CHK 3/31/71
DSGN 3/26/71
ENGR Marsh 4/1/71
APPD 4/1/71
APPD 4/2/71

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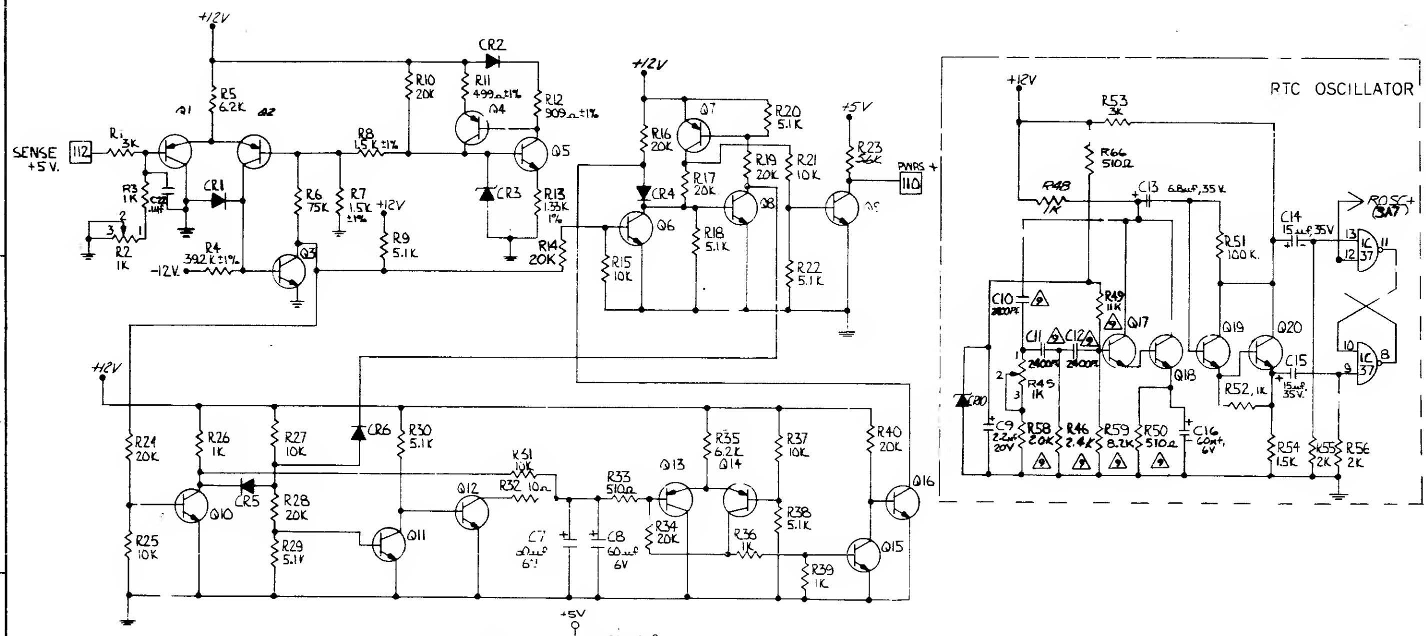
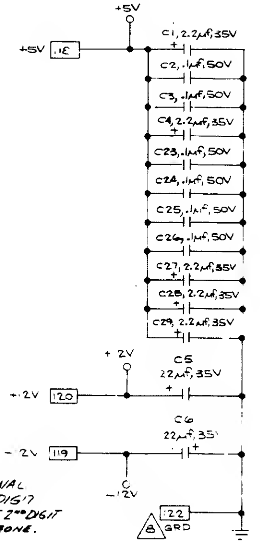
varian data machines /a varian subsidiary
2722 michelson drive / irvine / california / 92664

TITLE INSTL DWG, PWR SUP, 620L BSC

CODE IDENT NO.	SIZE	DWG NO	REV
21101	D	93D0275	B

SCALE —
SHEET 1 OF 1





CODE	SYM	ZONE	DESCRIPTION	DISPOSE	APPROVED	DATE
			1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
	X-1		PROTOTYPE RELEASE	—		
	X-2		REVISED & REDRAWN			5-3-68
	X3		REVISED & REDRAWN			6-5-68
	A		PRODUCTION RELEASE, EN 2301			8-28-68
	B		R45 IS 1K WAS 500Ω PER EN 2476			9-30-68
	C		ADDED IC41 & C21 PER EN 2493			9-30-68
	D		ADDED IC42 PER EN 2765			1-23-69
	E		SHT 2 K1 & K2 82A0015-000 WAS 84A0004-001 & REVISED PIN NO.5 PER EN 2986			5-15-69
	F		ADDED CR10; DELETED Q21 PER EN 3224			8-8-69
	G	JB	DELETED NOTES 3, 4, 5, & ALL VDM P/N'S FROM . F/D PER EN 3471			11/5/69
	H	CW	ADDED C22 .1 µf CAP PER EN 5581			7/2/71
	J	CW	ADDED SILKSCREEN AND SOLDERMASK TO REF DWG PER EN 80012			7/2/71
	K	GRL	ADDED C23 THRU C29 PER EN 81082		WHD	8/10/72
1	L	WSD	ADDED C30 SHT 2 EN 82509			12/17/73

9\. VALUES SHOWN ARE FOR 8KHZ FREQ. RANGE. FOR OTHER FREQ. RANGES REFER TO SPECIFICATION DWG # 38A0099

8\. SEE SHT. 4 FOR A COMPLETE LISTING OF GND PINS

7\. PWR DISTRIBUTION TO IC'S: PIN 14=+5V, PIN 7=GND (EXCEPT FOR NOTE 6)

6\. PWR DISTRIBUTION TO IC 13, 19, 20, 26, 3, 27 & 33: PIN 4=+5V PIN 11=GND

~~5. ALL IC'S ARE 49A0008~~

~~4. ALL TRANSISTORS ARE 765107Z~~

~~3. ALL DIODES ARE 7751017~~

2\. ALL RESISTORS ARE 1/4W, 5%.

1\. THE SYMBOLS XXX >— AND → INDICATE A SIGNAL SOURCE AND FLOW LOCATION CODES; THE FIRST DIGIT INDICATES SHEET NO., THE LETTER A HORIZ. & THE 2ND DIGIT A VERTICAL ZONE.

NOTE UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS

97D0642 - SILKSCREEN
97D0641 - SOLDERMASK
97D0134 - PHOTOMASTER
4CD0201 - BOARD DETAIL
44D0185 - ASSEMBLY
44P0185 - PARTS LIST

LAST REFERENCE DESIGNATIONS USED

R66	C30	CR10	Q20	IC42	K2

REFERENCE DESIGNATIONS NOT USED

CR8, R57, R43, R44, R47

QTY REQD PER ASSY				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
					LIST OF MATERIALS OR PARTS LIST			

DASH NO.	NEXT ASSY	N/A QTY
	44D0185	REF

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ± .1
.XX ± .03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR		4-15-68
CHK		6-28-68
DSGN		6/6/68
ENGR	T. E. Hansen	7/1/68
PROJ		7/1/68
REL		7/3/68

APPROVED 7/1/68

APPROVED 7/3/68

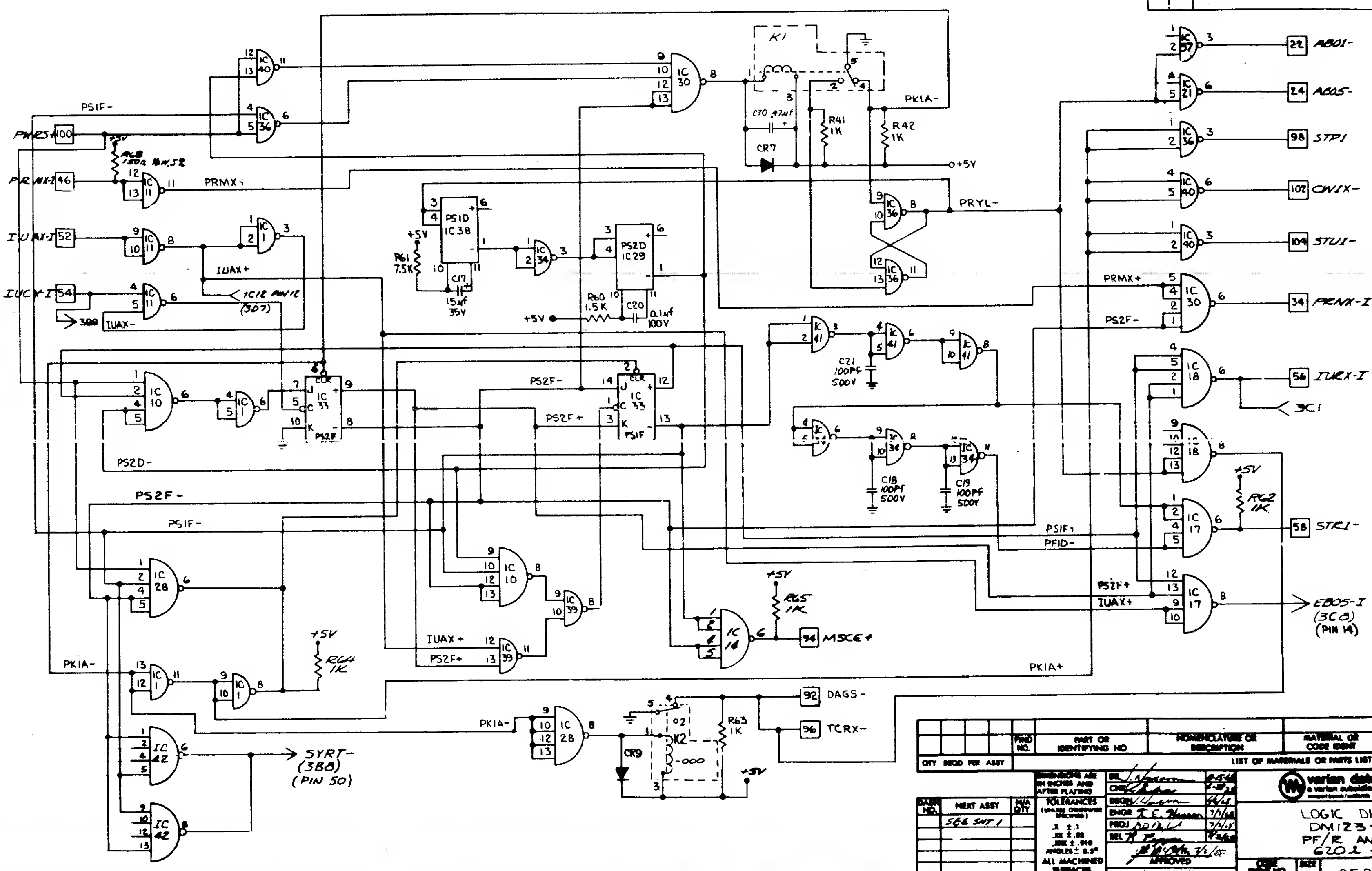
DO NOT SCALE DRAWING
WORK TO DIMENSIONS SHOWN

varian data machines
a varian subsidiary
newport beach california

LOGIC DIAGRAM
DM123-3
PF/R AND RTC
620i -13/14

CODE IDENT NO 21101
SIZE D
9500135
REV L
SCALE
SHEET OF 4

REVISION					
SYM	ZONE	DESCRIPTION	DISPOSITION	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			
		SEE SHEET 1			



				FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION
QTY REQD PER ASSY				LIST OF MATERIALS OR PARTS LIST				

DASH NO.	NEXT ASSY	N/A QTY
	SEE SHT 1	

DIMENSIONS ARE IN INCHES AND AFTER PLATING
TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

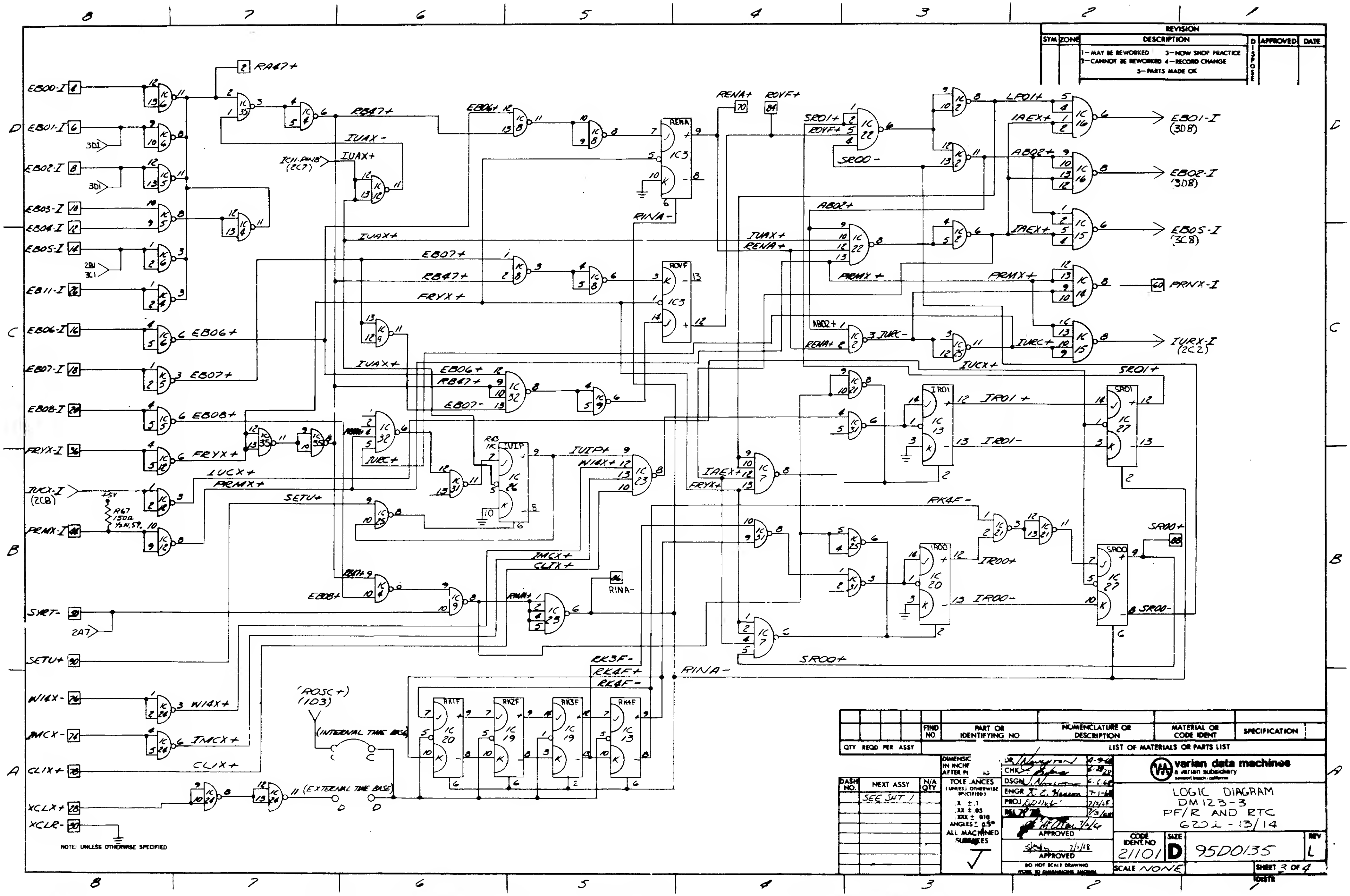
DR		
CHK		
DSGN		
ENGR	T. E. Hansen	7/1/68
PROJ		7/2/68
REL		

7/2/68 APPROVED
7/1/68 APPROVED
DO NOT SCALE DRAWING

varian data machines
a varian subsidiary
newport beach / california

LOGIC DIAGRAM
DM123-3
PF/R AND RTC
6202-13/14

CODE IDENT NO 21101
SIZE D
95D0135
REV E
SCALE NONE
SHEET 2 OF 4



SYM	ZONE	REVISION DESCRIPTION	D	APPROVED	DATE
		1—MAY BE REWORKED 3—NOW SHOP PRACTICE 2—CANNOT BE REWORKED 4—RECORD CHANGE 5—PARTS MADE OK			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

DASH NO.	NEXT ASSY	N/A QTY
	SEE SHT 1	

DIMENSIONS IN INCHES AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ± .010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR		4-9-68
CHK		6-28-68
DSGN	J. Newcomer	6-6-68
ENGR	T. E. Hansen	7-1-68
PROJ		7/2/68
REL		7/3/68

APPROVED 7/2/68

APPROVED 7/1/68

DO NOT SCALE DRAWING WORK TO DIMENSIONS SHOWN

varian data machines
a varian subsidiary
newport beach / california

LOGIC DIAGRAM
DM123-3
PF/R AND RTC
620i-13/14

CODE IDENT NO 21101 | SIZE D | 95D0135 | REV L

SCALE NONE

SHEET 3 OF 4

DISTR

Pin	Signal	Ref
1	GRD	
2	RA47+	3D7
3		
4	EB00-I	3D8
5		
6	EB01-I	3D8
7	GRD	
8	EB02-I	3D8
9	GRD	
10	EB03-I	3D8
11	GRD	
12	EB04-I	3C8
13	GRD	
14	EB05-I	3C8
15	GRD	
16	EB06-I	3C8
17	GRD	
18	EB07-I	3C8
19	GRD	
20	EB08-I	3C8
21	GRD	
22	AB01-	2D1
23	GRD	
24	AB05-	2D1
25	GRD	
26	EB11-I	3C8
27	GRD	
28	XCLX +	3A8
29	GRD	
30	XCLH -(RET)	3A8
31	GRD	
32		
33	GRD	
34	PRNX-I	2C1
35	GRD	
36	FRYX-I	3B8
37	GRD	
38		
39	GRD	
40		
41	GRD	
42		
43	GRD	
44	PCMIX-I	3B8
45	GRD	
46	PRMX-I	2C8
47	GRD	
48		
49	GRD	
50	SYRT-	3B8
51	GRD	
52	IUAX-I	2C8
53	GRD	
54	IUCX-I	2C8
55	GRD	
56	IURX-I	2C1
57	GRD	
58	STRI-	2B1
59	GRD	
60	PRNX-I	3C1
61		
62		
63	GRD	
64		
65	GRD	
66		
67	GRD	
68		
69	GRD	
70	RENA+	3D4
71	GRD	
72		
73	GRD	
74	IMCX-	3A8
75	GRD	
76	INI4X-	3A8
77	GRD	
78	CLIX +	3A8
79	GRD	
80		
81	GRD	
82		
83	GRD	
84	ROVF+	3D4
85	GRD	
86	RINA-	3B5
87	GRD	
88	SR00 +	3B1
89	GRD	
90	SEIU +	3B8
91	GRD	
92	DAGS-	2A4
93	GRD	
94	MSCE +	2B4
95	GRD	
96	TCRX-	2A4
97		
98	STPI-	2D1
99		
100	PWRS+	2D8
101		
102	CWIX -	2C1
103		
104	STUI-	2C1
105		
106		
107		
108		
109		
110	PWRS +	1D5
111		
112	SENSE +5V	1D8
113		
114		
115		
116		
117		
118	+5V	1D6
119	-12V	1A6
120	+12V	1A6
121		
122	GRD	1A6

NOTE UNLESS OTHERWISE SPECIFIED

REVISION					
SYM	ZONE	DESCRIPTION	DISPOSE	APPROVED	DATE
		1– MAY BE REWORKED 3– NOW SHOP PRACTICE 2– CANNOT BE REWORKED 4– RECORD CHANGE 5– PARTS MADE OK			
		SEE SHEET ONE			

QTY REQD PER ASSY	FIND NO.	PART OR IDENTIFYING NO	NOMENCLATURE OR DESCRIPTION	MATERIAL OR CODE IDENT	SPECIFICATION

LIST OF MATERIALS OR PARTS LIST

DASH NO.	NEXT ASSY	N/A QTY
	SEE SHT 1	

DIMENSIONS ARE IN INCHES AND AFTER PLATING

TOLERANCES (UNLESS OTHERWISE SPECIFIED)
.X ±.1
.XX ±.03
.XXX ±.010
ANGLES ± 0.5°
ALL MACHINED SURFACES √

DR		
CHK		6-26
DSGN		6/6/
ENGR	T. E. Hansen	7-1-6
PROJ		7/2/64
REL		7/3/

B McCabe 7/2/65
APPROVED

7/3/68
APPROVED

DO NOT SCALE DRAWING
WORK TO DIMENSIONS SHOWN

varian data machines
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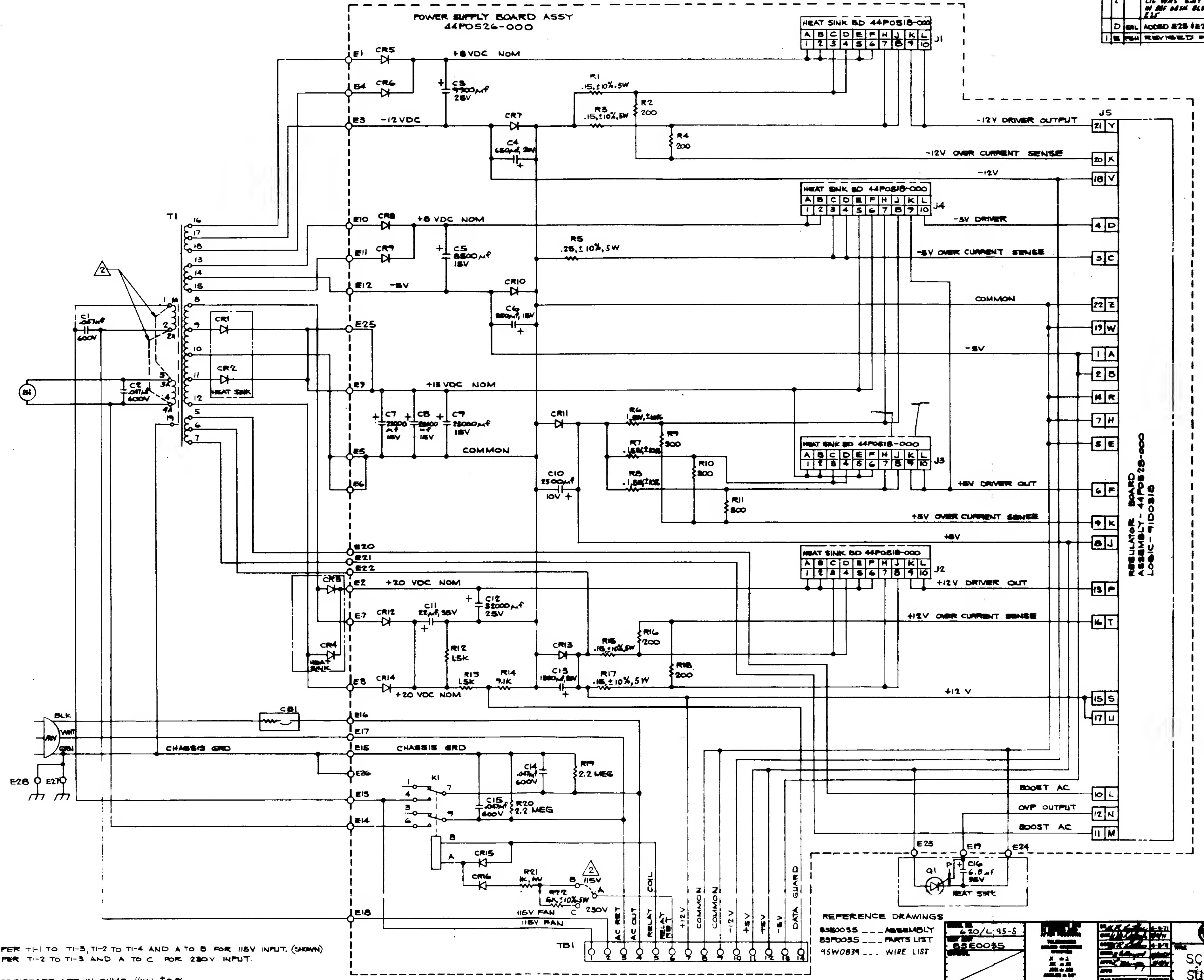
newport beach/california

LOGIC DIAGRAM
DM 123-3
PF/R AND RTC
620i - 13/14

CODE IDENT NO 21101
SIZE D
95D0135
SCALE
SHEET 4 OF 4
DISTR

CODE			REVISIONS		
	X		PROTOTYPE RELEASE	RC	
	A		PRODUCTION RELEASE EN 5549		
	B		R1, 3, 5, 17 & 22 TOLERANCE WAS ±5%. C10 2500 μf WAS 2400 μf EN 5708		
	C		C16 WAS 6 μf 15V, REMOVED E25 IN REF DESIG BLOCK ADDED E27 & E25 EN 7014		
	D	SRL	ADDED E28 & E28 PER EN 71575		
I	E		REVISED PER EN 82579		



REF DESIGNATIONS	
LAST USED	NOT USED
B1	
C16	
CB1	
CR16	
J5	
R22	
T1	
TB1	
Q1	
E28	

95E0818

E

2 JUMPER T1-1 TO T1-3, T1-2 TO T1-4 AND A TO B FOR 115V INPUT. (SHOWN)
JUMPER T1-2 TO T1-3 AND A TO C FOR 230V INPUT.

1. ALL RESISTORS ARE IN OHMS, 1/4W, ±5%

NOTE: UNLESS OTHERWISE SPECIFIED

REFERENCE DRAWINGS
85E0035 ___ ASSEMBLY
85P0035 ___ PARTS LIST
95W0839 ___ WIRE LIST

620/L-95-S
85E0035

DO NOT SCALE DRAWING

4-9-71

TITLE
SCHEMATIC, POWER SUPPLY

21101 E 95E0818 E

SHEET 1 OF 1

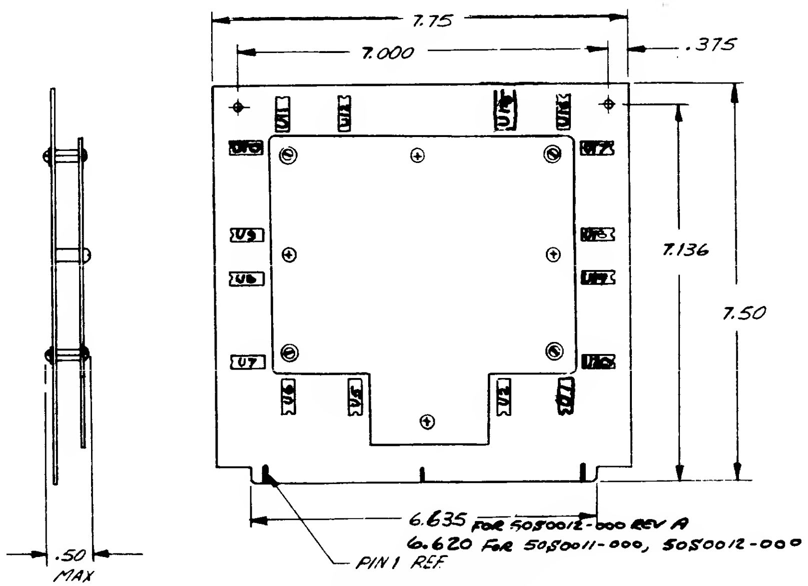
3238441

DISTR CODE

REVISIONS					
LTR	ZONE	DESCRIPTION	SIGNATURE AND DATE DFT	CHK	ENGRG
A		ERN 786-C	3-2-72		3-7-72

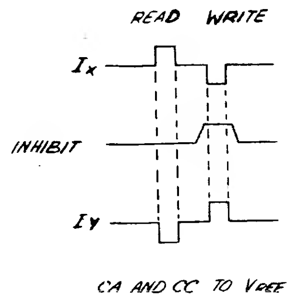
PIN ASSIGNMENT

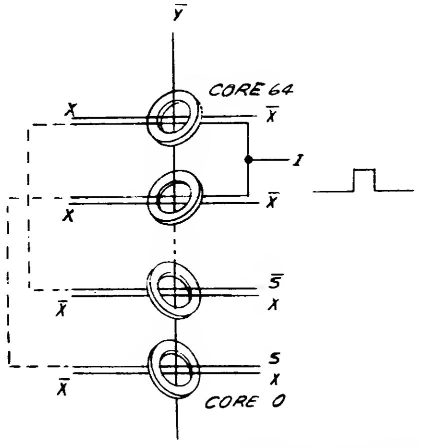
PIN	SIDE "A"	SIDE "B"
1	GND	GND
2	CA1	CA1
3	CC1	CC1
4	CA3	CA3
5	CC3	CC3
6	CA5	CA5
7	CC5	CC5
8	CA7	CA7
9	CC7	CC7
10	SPARE	SPARE
11	SPARE	SPARE
12	SPARE	SPARE
13	XS6	XS7
14	XS4	XS5
15	XS2	XS3
16	XS0	XS1
17	RT1-1	RT1-1
18	GND	GND
19	RT1-2	RT1-2
20	S11	$\overline{S}11$
21	I11	$\overline{S}6$
22	S6	I6
23	S15	$\overline{S}15$
24	I15	$\overline{S}9$
25	S9	I9
26	S5	$\overline{S}5$
27	I5	$\overline{S}7$
28	S7	I7
29	S0	$\overline{S}0$
30	I0	$\overline{S}4$
31	S4	I4
32	SPARE	SPARE
33	SPARE	SPARE
34	SPARE	SPARE
35	S1	$\overline{S}1$
36	I1	$\overline{S}12$
37	S12	I12
38	S14	$\overline{S}14$
39	I14	$\overline{S}10$
40	S10	I10
41	S3	$\overline{S}3$
42	I3	$\overline{S}13$
43	S13	I13
44	S8	$\overline{S}8$
45	I8	$\overline{S}2$
46	S2	I2
47	SPARE	SPARE
48	GND	GND
49	SPARE	SPARE
50	YS1	YS0
51	YS3	YS2
52	YS5	YS4
53	YS7	YS6
54	SPARE	SPARE
55	SPARE	SPARE
56	SPARE	SPARE
57	CA6	CA6
58	CC6	CC6
59	CA4	CA4
60	CC4	CC4
61	CA2	CA2
62	CC2	CC2
63	CA0	CA0
64	CC0	CC0
65	GND	GND



SIDE "A" SHOWN

TYPICAL TEST PROGRAM TIMING





TYPICAL STACK LINES

DRIVE

SINK

	U20	U9	U18	U7	U19	U10	U17	U8
	CC0 CA0	CC1 CA1	CC2 CA2	CC3 CA3	CC4 CA4	CC5 CA5	CC6 CA6	CC7 CA7
XS0	0	2	16	18	45	47	61	63
XS1	1	3	17	19	44	46	60	62
XS2	4	6	20	22	41	43	57	59
XS3	5	7	21	23	40	42	56	58
XS4	8	10	24	26	37	39	53	55
XS5	9	11	25	27	36	38	52	54
XS6	12	14	28	30	33	35	49	51
XS7	13	15	29	31	32	34	48	50

"X" DECODE DRIVE

DRIVE

SINK

	U1	U11	U16	U6	U2	U12	U15	U5
	CC0 CA0	CC1 CA1	CC2 CA2	CC3 CA3	CC4 CA4	CC5 CA5	CC6 CA6	CC7 CA7
YS0	0	2	16	18	32	34	48	50
YS1	1	3	17	19	33	35	49	51
YS2	4	6	20	22	36	38	52	54
YS3	5	7	21	23	37	39	53	55
YS4	8	10	24	26	40	42	56	58
YS5	9	11	25	27	41	43	57	59
YS6	12	14	28	30	44	46	60	62
YS7	13	15	29	31	45	47	61	63

"Y" DIODE DECODE

WORST CASE PATTERN

	Y_0	Y_1	Y_2	Y_3	—	—	Y31	Y32		—	Y63
X0	1	1	1	1			1	0	0		0
X1	0	0	0	0			0	1	1		1
X2	1	1	1	1			1	0	0		0
X3	0	0	0	0			0	1	1		1
|											
|											
X63	0	0	0	0			0	1	1		1

SINK

6 INTEGRATED CIRCUIT U3, U4, U13 & U14 NOT USED.

5 PCB TYPE: PLANAR PLUGGABLE. COMPONENTS AND CORES ON ONE SIDE.

4 CAPACITY: 4KX18 18 MIL MAX.(COINCIDENT)
8KX9 18 MIL MAX.
(COINCIDENT/ANTICOINCIDENT, 4K DECODE).

3 WIRING: 3 WIRE - 3D
X & Y - CONTINOUSLY WIRED
SENSE/INHIBIT - BOWTIE 3 POINT TERMINATION.

2 DIODE TYPE: INTERGRATED CIRCUIT - DIODE ARRAY, DUAL-IN-LINE 16 DIODES PER PACKAGE. AMPEX PN 586-687.

1 CONNECTION TYPE: TOTAL 130 CONTACTS, 65 CONTACTS EACH SIDE SPACED AT .100.
MATING CONNECTOR TYPE IS MASTERITE IND. PN 008GR65-DR-B-X OR EQUIV.

NOTES: UNLESS OTHERWISE SPECIFIED.

PARTS LIST ☐

	S.A.N.
3256373	9483-4411
NEXT ASSY	USED ON
APPLICATION	

NOTICE

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES AND INCLUDE CHEMICALLY APPLIED OR PLATED FINISHES.

TOL		2 PLC	3 PLC		ANG
±		—	—	—	—

REMOVE BURRS AND SHARP EDGES
YES ☐ NO ☐
DO NOT SCALE THIS PRINT

MATERIAL:
FINISH:

	SIGNATURE	DATE
DRAWN BY	O. Krauss	2-21-72
CHK BY		
DFT APPD		
ENGRG APPD		
AUTH BY		

AMPEX
COMPUTER PRODUCTS DIV
Culver City,
California 90230

ELECTRICAL / MECHANICAL INTERFACE AND SCHEMATIC

SIZE	CODE IDENT NO.	
D	09150	3238441

SCALE NONE
SHEET 1 OF 1

ENGINEERING NOTICE

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E.N. NO. 83017
PAGE 1 OF 3
ISSUE DATE 6-4-74

MODEL NUMBER 620/L-100	EFFECTIVE SERIAL ALL	WBS 6/4/74 PARTS DISPOSITION
DEVICE DM342 INTERRUPT TRAP		☐ USE AS IS ☐ SCRAP
		☒ REWORK SEE PAGE 3 ☐ NOT APPLICABLE

TYPE OF INFORMATION

☐ DRAWING RELEASE ☒ DRAWING CHANGE ☐ RECORD CHANGE ☐ SUBSTITUTION OR DEVIATION ☐ **STOP ORDER**

REASON FOR ACTION

OUTPUT CWIX - (IC34-11) IS OR-TIED ON GROUND PLANE WITH A DTL OUTPUT OF PFR BOARD. DRIVING GATES MUST BE OPEN-COLLECTOR OR DTL. DTL GATE ON PFR UNABLE TO PULL DOWN ACTIVE PULL-UP GATE ON INTERRUPT TRAP BOARD RELIABLY.

CHANGE CODE: 1

OUTSTANDING CODE 2 EN'S: 0

ACTION TO BE TAKEN

44P0598 P/L-INTERRUPT TRAP ASSY DM342

1. UPDATE REVISION LETTER OF REF DRAWINGS 44D0598, 91D0362 AND F/N 1 40D0511-000 PER THIS EN.
2. F/N 3 (65N2500-102)
   A. QTY IS: 15 WAS: 12
   B. REMARKS IS: R8-22 WAS: R8-19
3. F/N 16 (49A0042-000)
   A. QTY IS: 7 WAS: 6
   B. REMARKS IS: IC13,17,21,25,29,33,34 WAS: IC17,21,25,29,33,13
4. F/N 18 (49A0039-000)
   A. QTY IS: 5 WAS: 6
   B. REMARKS IS: IC18,22,26,30,31 WAS: IC18,22,26,30,31,34

DOCUMENTS AFFECTED

DOCUMENT	REV. IS	REV. WAS	DOCUMENT	REV. IS	REV. WAS	REFERENCE DOCUMENTS
44D0598	B	A	91C0362	B	A	RECO # 05366
44P0598	E	D	97D0712	C	B	
40D0511	C	B	97D0713	C	B	
			97D0714	C	B	

DRAFTSMAN		CHECKER		PROJECT ENGR.		RESP. MGR.		REVIEW BOARD
J. Luther	5-23-74	Brownfield	6/3/74	T. E. Hanson	6-4-74		6/4/74 6/4/74	

96- 0013-000F

ENGINEERING NOTICE

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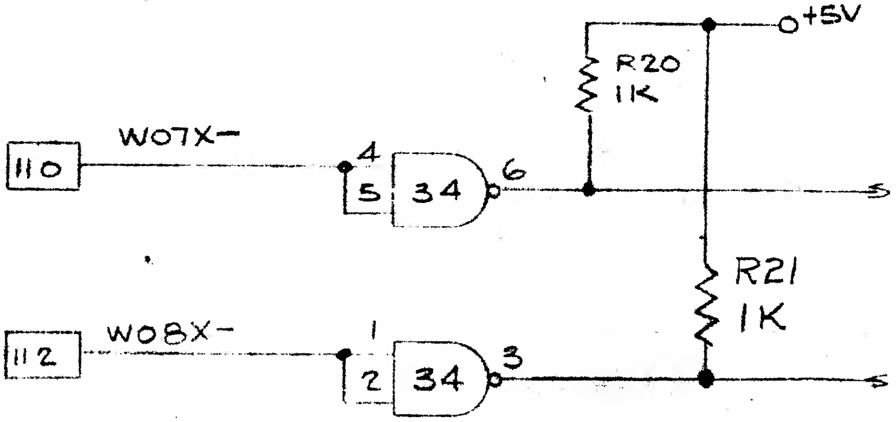
E. N. No. 83017
PAGE 2 OF 3

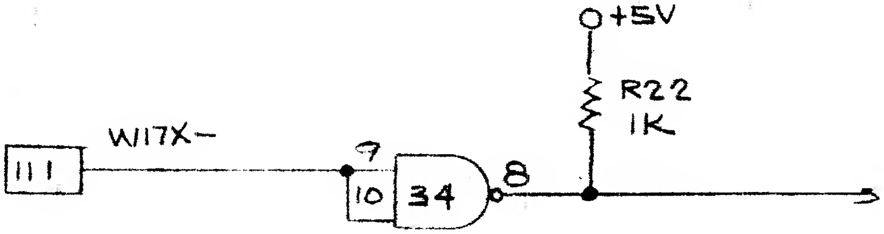
91C0362 LOGIC- INTERRUPT TRAP DM342

1. SHEET 1 REFERENCE DESIGNATION BLOCK
   LAST USED IS: R22 WAS: R19

2. SHEET 2 ZONE B4 ADD R20 & R21 AS SHOWN



3. SHEET 3 ZONE B7 ADD R22 AS SHOWN



97D0712 ARTWORK DM342

REVISE TO CONFORM WITH CHANGES TO 91C0362 LOGIC

97D0713 SILKSCREEN DM342
97D0714 SOLDER MASK DM342
44D0598 ASSEMBLY DM342

REVISE TO CONFORM WITH CHANGES TO 97D0712 ARTWORK

40D0511 P.W. BOARD DM342

1. REVISE TO CONFORM WITH CHANGES TO 97D0712 ARTWORK.
2. UPDATE REVISION LETTER OF ARTWORK MASTERS 97D0712, 97D0713 AND 97D0714 PER THIS EN.

FORM 96A0013-0

ENGINEERING NOTICE

E. N. No. 83017

PAGE 3 OF 3

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REWORK INSTRUCTIONS

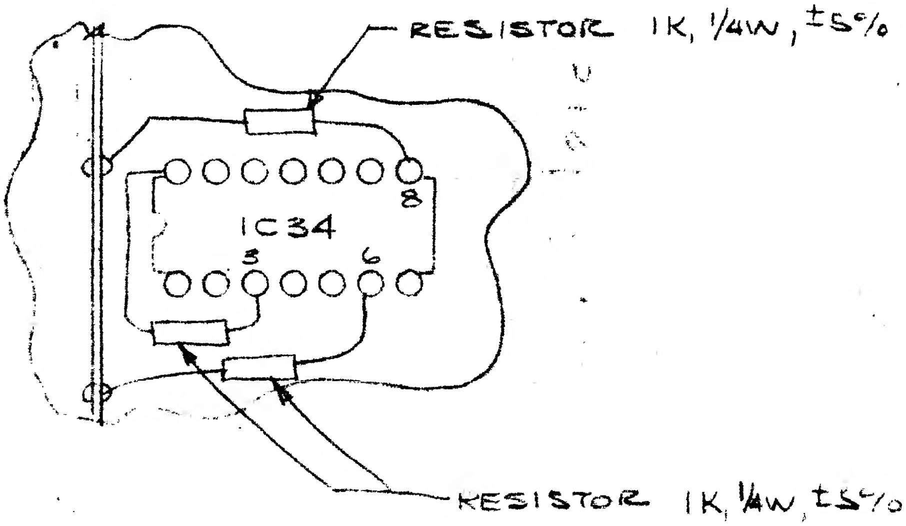
Reidentify the following revision letters by stamping an "X" over the old revision letter and restamping the new revision letter next to the "X".

Revision Is:	Revision Was:
44P0598-000 E	44P0598-000 D

44P0598-000 INTERRUPT TRAP BOARD DM342

1. REMOVE IC34 (49A0039-000) AND REPLACE IC34 USING 49A0042-000 (74H01)

2. ADD 3 RESISTORS 1K, 1/4W, ±5% (65N2500-102) AS SHOWN



FORM 96A0013-001

ENGINEERING NOTICE

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E.N. NO. [illegible]
PAGE 1 OF 2
ISSUE DATE 6-17-73

MODEL NUMBER 620L	EFFECTIVE SERIAL EARLIEST OPPORTUNITY	6/15/73 PARTS DISPOSITION ☒ USE AS IS ☐ SCRAP ☐ REWORK ☐ NOT APPLICABLE
DEVICE POWER SUPPLY		

TYPE OF INFORMATION

☐ DRAWING RELEASE ☒ DRAWING CHANGE ☐ RECORD CHANGE ☐ SUBSTITUTION OR DEVIATION ☐ **STOP ORDER**

REASON FOR ACTION

1. TO ADD NON-STANDARD HARDWARE REQUIREMENTS
2. TO REVISE HARDWARE CALLOUT
3. TO ELIMINATE POSSIBLE SHORTING OF HDW. TO HEATSINK
4. TO ADD MTG BRACKETS TO P.S. PARTS LIST

ACTION TO BE TAKEN

83P0035 PARTS LIST POWER SUPPLY

1.) UPDATE REVISION LETTER OF REFERENCE DRAWINGS PER THIS EN.

2.) DELETE FIND NO. 45 (79A0050-000)

3.) ADD THE FOLLOWING, QTY SHOWN SAME FOR ALL DASH NUMBERS.

QTY	F/N	PART NO.	DESC	REMARKS
2	48	79A0025-034	MICA WASHER	
1	49	79A0050-003	SPACER	
1	50	79A0050-004	WASHER	
1	51	79A0050-002	L.W. TERMINAL	
1	52	79A0050-001	JAM NUT	

DOCUMENTS AFFECTED

DOCUMENT	REV. IS	REV. WAS	DOCUMENT	REV. IS	REV. WAS	REFERENCE DOCUMENTS
83P0035	L	K				RECO # 4553 4554 4566
83E0035	H	G				

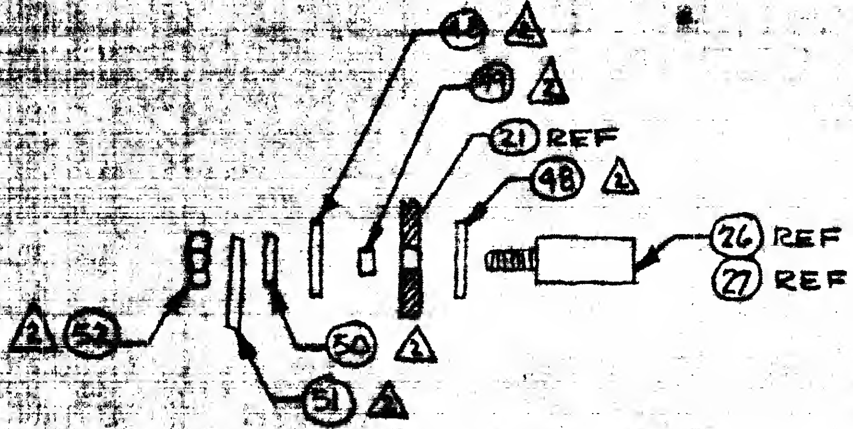
DRAFTSMAN		CHECKER		PROJECT ENGR.		RESP. MGR.		REVIEW BOARD
	6/15/73		6/15/73	C Smith	6/15/73		6/15/73 6/18/73	

E.N. No. 22-83
PAGE 2 OF 2

83E0035 POWER SUPPLY ASSY

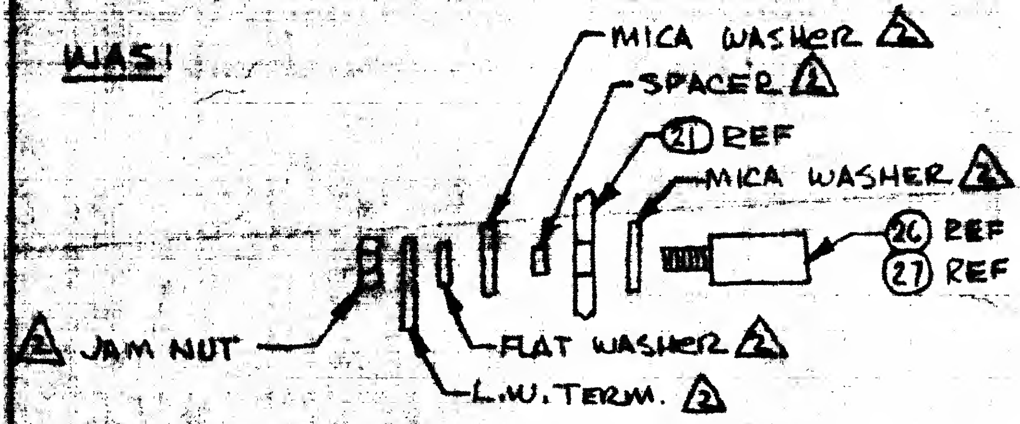
1) REVISE SECTION B-B AS SHOWN BELOW

IS:



SECTION B-B
EXPLODED VIEW (TYP FOR CR1-CR4, Q1)

WAS:



SECTION B-B
EXPLODED VIEW (TYP FOR CR1-CR4, Q1)
USE MTG KIT F/N 45 FOR Q1

ENGINEERING NOTICE

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E.N. NO. 8[illegible]
PAGE 1 OF 2
ISSUE DATE [illegible]-15-[illegible]

MODEL NUMBER 620/L-100	EFFECTIVE SERIAL EARLIEST OPPORTUNITY	8/15/73 PARTS DISPOSITION	
DEVICE DM337 PROCESSOR CONT		☒ USE AS IS	☐ SCRAP
		☐ REWORK	☐ NOT APPLICABLE

TYPE OF INFORMATION

☐ DRAWING RELEASE ☒ DRAWING CHANGE ☐ RECORD CHANGE ☐ SUBSTITUTION OR DEVIATION ☐ **STOP ORDER**

REASON FOR ACTION

1. TO REMOVE JUMPER A-A

ACTION TO BE TAKEN

<u>97D0697-ARTWORK-PROCESSOR CONTROL-DM337</u>

1. REMOVE ETCH FROM P1-59 TO FEEDTHRU A
2. REMOVE ETCH FROM IC16-7 TO FEED THRU A
3. ADD ETCH FROM P1-59 TO IC16-7.

97D0698-SILKSCREEN-PROCESSOR CONT-DM337

1. REVISE PER CHANGES TO 97D0697

97D0699-SOLDER MASK-PROCESSOR CONT-DM337

1. REVISE PER CHANGES TO 97D0697

40D0506-BD DETAIL-PROCESSOR CONT-DM337

1. UPDATE REV LETTERS OF ARTWORK MASTERS REQ'D PER THIS EN.

DOCUMENTS AFFECTED

DOCUMENT	REV. IS	REV. WAS	DOCUMENT	REV. IS	REV. WAS	REFERENCE DOCUMENTS
97D0697	H	G	40D0506	L	K	RECO# 04484
97D0698	G	F	44D0593	G	F	
97D0699	G	F	44P0593	N	M	

DRAFTSMAN		CHECKER		PROJECT ENGR.		RESP. MGR.		REVIEW BOARD
	8/9/73		8/13/73	R. E. Hixon	8/14/73		8/14/73	

8/14/73

ENGINEERING NOTICE

E.N. No. [illegible]
PAGE 2 OF [illegible]

44D0506 - CONT'D

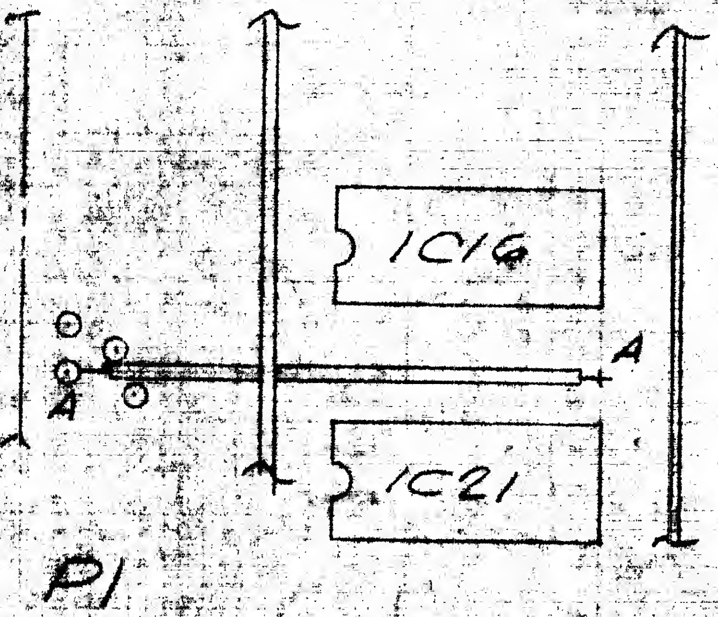
2. HOLE CHART, REVISE QTY FOR SYM A
IS: 1230, WAS: 1232

44P0593 - P/L - PROCESSOR CONTROL - DM337

1. UPDATE REV LETTER OF REF DWG'S PER THIS EN.
2. UPDATE REV LETTER OF FIND Nº 1 PER THIS EN.
3. DELETE FIND Nº 35, WAS: (QTY, -000, -001) 0, (PART Nº) 53A0647-200 (DES) WIRE, TEFLON, (REMARKS) 26 AWG

44D0593 - ASSY - PROCESSOR CONTROL - DM337

1. FIELD OF DWG, REMOVE JUMPER A-A
WAS:



ENGINEERING NOTICE

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E.N. NO. 82144
PAGE 1 OF 5
ISSUE DATE 3-26-74

MODEL NUMBER 620L-100	EFFECTIVE SERIAL SEE BELOW *	3/27/74 PARTS DISPOSITION ☐ USE AS IS ☐ SCRAP ☒ REWORK SEE PG 4 ☐ NOT APPLICABLE
DEVICE PROC. CONT NO 2		

TYPE OF INFORMATION

☐ DRAWING RELEASE ☒ DRAWING CHANGE ☐ RECORD CHANGE ☐ SUBSTITUTION OR DEVIATION ☐ **STOP ORDER**

REASON FOR ACTION
TO ENABLE THE 620L-100 TO PASS INSTRUCTION TEST NO. 2 BY ELIMINATING A DECODING SPIKE ON IAPX+

CHANGE CODE 1

OUTSTANDING CODE 1 ENS

~~ACTION TO BE TAKEN~~
* EFFECTIVE SERIAL

1.) SEE PAGE 5 FOR SER. NO. EFFECTIVITY

2.) ALL THOSE USED IN SYSTEMS THAT FAIL TO PASS MARGIN TESTS

ACTION TO BE TAKEN
(SEE PAGE 2)

3/25/74

DOCUMENTS AFFECTED

DOCUMENT	REV. IS	REV. WAS	DOCUMENT	REV. IS	REV. WAS	REFERENCE DOCUMENTS
			40D0509	E	D	RECO# 05220
91D0360	C	B	97D0706	C	B	RECO# 05140
44D0596	E	E	97D0707	E	D	
44D0596	C	B	97D0708	C	B	

DRAFTSMAN		CHECKER		PROJECT ENGR.		RESP. MGR.		REVIEW BOARD	
	3/21/74		3/21/74	R.E. Hanson	3/25/74		3/25/74 3/25/74		

95A 0013-000F

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E.N. No. 82844
PAGE 2 OF 5

44P0596 P/L PROC. CONTROL NO. 2

1.) REVISE QTY AND REMARKS OF FIND NO. 4 (49A0008-000) QTY IS 5 WAS 4, REMARKS ADD IC49

2.) UPDATE REVISION LETTER OF REFERENCE DRAWINGS AND FIND NO. 1 PER THIS EN.

9700706 ARTWORK DM340
9700708 SOLDERMASK DM340
9700707 SILKSCREEN DM340

1.) UPDATE PER CHANGES TO LOGIC DIAGRAM 9100360

40D0509 P.W. BOARD DM340

1.) REVISE F/D TO AGREE WITH CHANGES TO 9700706

2.) UPDATE REVISION LETTERS OF "ARTWORK MASTERS REQUIRED" PER THIS EN.

4400596 PROC CONTROL NO. 2 ASSY

1.) ADD IC49 TO F/D

FORM 96A0013-001

ENGINEERING NOTICE

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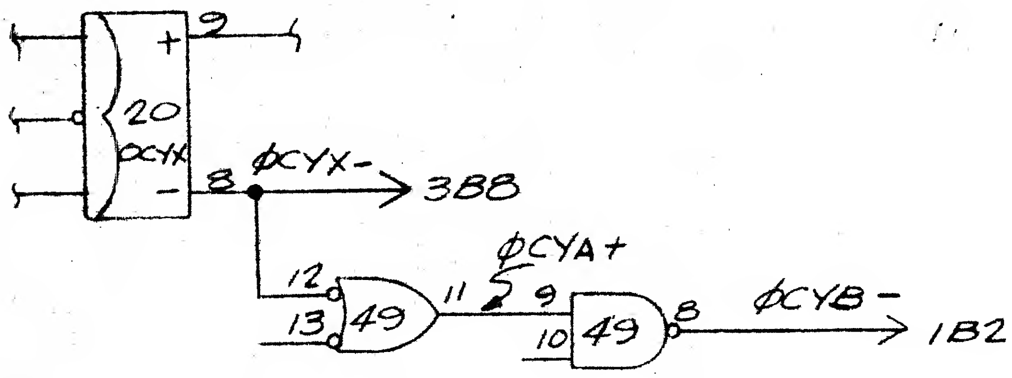
E.N. No. 82744
PAGE 3 **OF** 5

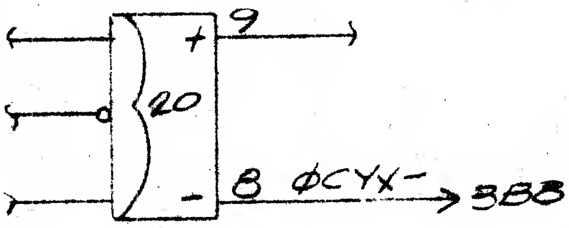
91D0360-LOGIC-PROC. CONTROL No 2

1. SHEET 1, ZONE C1, REVISE AS FOLLOWS:

IS:

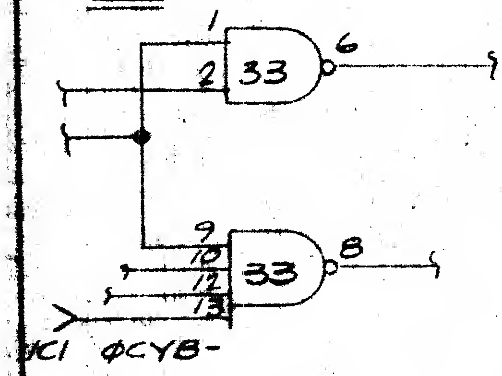


WAS:

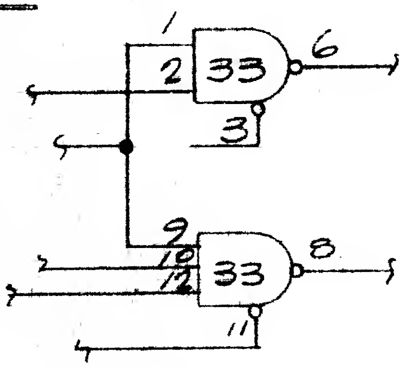


ZONE B2

IS:



WAS:



2. UPDATE REF DES LAST USED BLOCK;
IS: IC49, WAS IC48

ENGINEERING NOTICE

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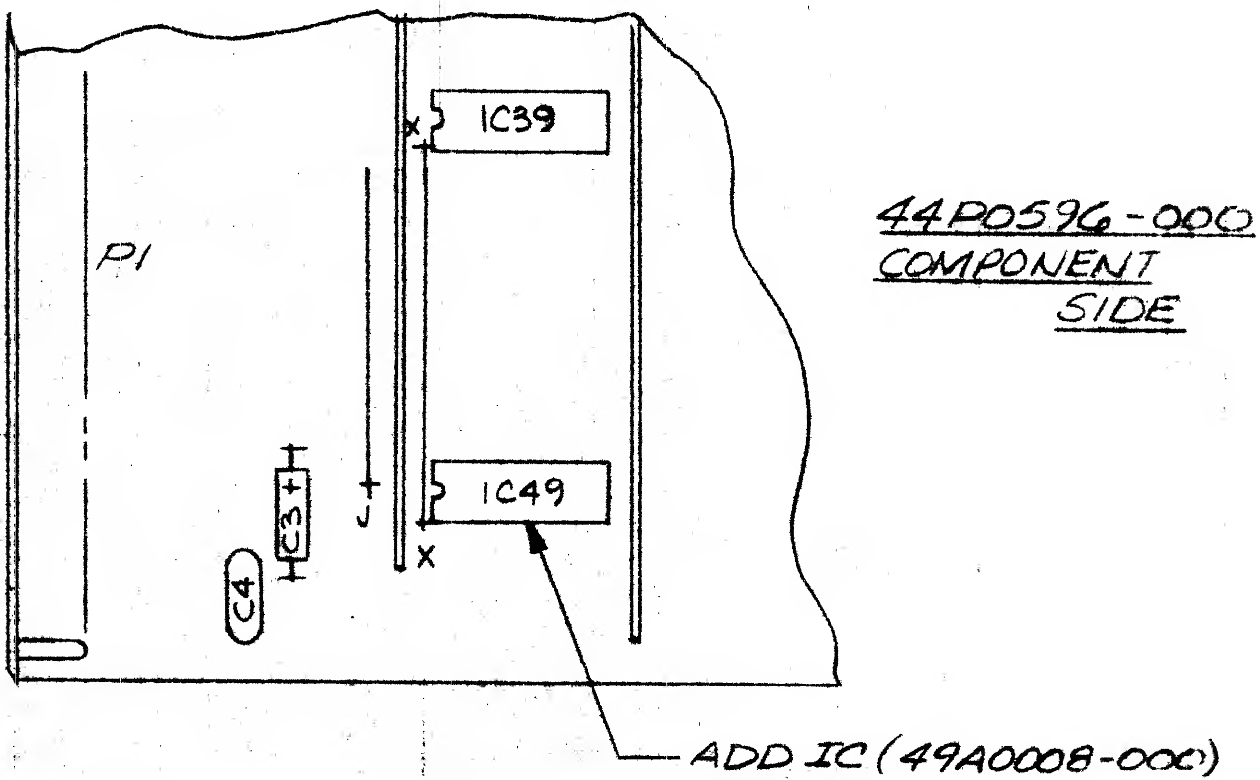
REWORK INSTRUCTIONS

E. N. No. 82844
PAGE 4 **OF** 5

Reidentify the following revision letters by stamping an "X" over the old revision letter and restamping the new revision letter next to the "X".

Revision Is:	Revision Was:
44P0596-000 F	44P0596-000 E

1.) INSTALL IC49, VDM P/N 49A0008-000 IN SPARE IC LOCATION AS SHOWN BELOW



2.) ADD THE FOLLOWING JUMPERS TO COMP. SIDE USING WIRE, 53A0701-000, 30 AWG

FROM	TO
IC49-8	IC33-13
IC49-9	IC49-11
IC49-12	IC20-8

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E.N. No. 82844
PAGE 5 OF 5

SERIAL NO. EFFECTIVITY

44P0596-000 SER. NO. 1566 AND ON.

S/N 1166 THRU 1169,
1200
1201
1202
1210
1211
1215
1219
1220
1223
1225
1228
1236
S/N 1243 THRU 1337
S/N 1339 THRU 1359
S/N 1361 THRU 1368
1372
1386
1388
1389
1390
1394
1395
1396
1398
1400
1403
1407
1411

1413
1414
1422
1432
1438
1439
1444
1445
S/N 1451 THRU 1485
1526
1528
1529
1532
1533
1534
1536
1540
1544
S/N 1547 THRU 1550
1554
1557
1559
1561
1565